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ABSTRACT

This study of career goals, academic objectives and the relation of these to success in the job market involved a series of annual interviews with samples of people representing four different population groups: young men who were 14 to 24 years old in 1966; men who were 45 to 59 years old in 1966; young women who were 14 to 24 years old in 1968; and women who were 30 to 44 years old in 1967. For each of the four groups a probability sample of the civilian noninstitutional sample population has been drawn by the U.S. Bureau of the Census from 235 sample areas representing every state and the District of Columbia. Each sample consists of approximately 5,000 people. Conclusions tentatively suggest: (1) There is an enormous diversity in the background of students, even when they are grouped into relatively homogenous curriculum categories. (2) Many of the students show the clear effect of inadequate or no vocational guidance in their hopes and educational objectives. (3) Even in a world in which guidance was both accurate and abundant, many careers would be begun, terminated, and changed as a result of exogenous and accidental events that are completely outside the control of the student. (4) Most of the men in this study had vague career goals that were subject to many changes. (5) Higher education in the United States is clearly one of the most effective channels of upward intergenerational mobility, and this too different by curriculum field. Additional conclusions and case histories are included. (MJM)

FINAL REPORT

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ACADEMIC CAREERS AND POST-COLLEGE EMPLOYMENT OF YOUNG MEN

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ACADEMIC CAREERS AND POST-COLLEGE EMPLOYMENT OF YOUNG MEN

The choice of a college curriculum and the subsequent choice of a career are two of the most important decisions that are made by young people during their lifetimes. These decisions have an important bearing on the way in which they will spend their time, both during and outside working hours, ranging from the amount of money they will earn, to the life style they will assume.

For some fortunate young people the choice of a college curriculum and a career come easily, naturally and very early in life without waste of time or effort. The boy whose father is a doctor or a lawyer may decide even before he enters high school that he will follow in his father's footsteps. The child who is a gifted artist, pianist or mathematician may decide upon a career during the early teens. Indeed there are some occupations, particularly in the arts, that cannot be successfully pursued unless there is an early flowering of talent that is nurtured.

For most young people, however, including many who are gifted, these choices do not come easily and are often accompanied by a great deal of trial and error. Bright and talented young people often have the potential to work successfully in one of several different fields and the problem is to choose the "right" one for them. They may have the talent to be a professional musician, but may consider the pay too low. They may have the ability to become a lawyer or a doctor, but may consider the training too long, too arduous and too expensive. The list could be expanded ad infinitum but, it would only point to the fact that for many people the choice of a college curriculum and a career is profusely difficult and agonizing.

One of the great mysteries of life is the process whereby one moves from the acquisition of a college diploma to a paid job. It is a great act of faith to pursue a course of study for four or more years, majoring in English, French, economics, or psychology, hoping all the while that there will be a market for one's skills. One might anticipate that there will be great differences among professions. Doctors and lawyers apparently move directly into professional careers and stay there for the remainder of their working lives. In contrast, finding a job by a graduate engineer may depend on the state of the economy or the development of new technology. Even among those who do find initial jobs as engineers, many do not make a lifetime career in that profession. But, what happens to people who major in education, business management or liberal arts? How many of these students end up in professional careers based on their fields of study?

The analysis of the relationship between the choice of a college curriculum and the subsequent patterns of career development has important implications for society as well as for the individual. The American people have long been favorably disposed toward public investments in education. During the nineteenth century we developed a widespread system of public elementary and secondary education which played a major role in integrating the diverse population that came to this country from all over the world. Tnrough the establishment of land grant colleges we also laid the foundation for a publicly supported system of higher education as well. Although the investment in college

and university training grew steadily throughout our history, it reached a crest after World War II. The past 25 years have witnessed a persistent rise in the number of college buildings, faculty and student enrollments. An occasional "doubting Thomas" has questioned the wisdom of training so many students when we could not be sure there would be jobs available for them. The prevailing mood, however, was overwhelmingly in favor of more support for higher education. During the past few years this policy has been questioned more seriously than ever before primarily because there have been dramatic turnabouts in the job market for certain types of college graduates. Jobs for new engineers had been plentiful until the late 1960s when the situation softened. Similarly, a steady increase in the school age population had called for a steady increase in the need for teachers. The situation also abruptly changed during the late 1960s.

A recent Bureau of Labor Statistics study explored the employment situation of college graduates of 1970 and 1971. These two years, of course, were not favorable for job seekers and it was found that 40 percent of all persons with only a bachelor's degree found jobs in an activity not related to their training.

Because of developments such as those described above, several recent studies are critical of the importance attached to higher education in our society. One example of such a study is Education and Jobs: The Great Training Robbery by Professor Ivar Berg of Columbia University. This study, published in 1970, argues that we are getting more college graduates than the labor market can absorb. As a result, the educational requirements for many jobs are being increased unreasonably. This leads to underemployment and dissatisfaction among workers who are college graduates and it also discriminates against workers who have not gone to college. By tracing the early career development of a sample of college graduates, this study provides a picture of the manner in which college graduates utilize the training they received in college in their subsequent work careers.

This is a study of career goals, academic objectives and the relation of these to success in the job market. Because the sample is small, there are few, if any, definitive findings but a number of tentative ones which, from a common sense point of view, point to worthwhile and believable conclusions. This study is based on a larger study of 5,000 young men who were 14 to 24 years old in 1966. About 600 of these were identified as college students or graduates who had stated a curriculum objective when they changed schools or when they re-entered college after a year or more of absence or when they received a degree. Because the broader study was concerned with a far wider range of problems, many of the items of information collected were not relevant for this study and many of the items which would have been desirable in order to provide deeper insights into the problems of college students were not collected. Whatever truths are surfaced in this study are the result, primarily, of examination of individual case histories covering the four years of this particular study. This study may properly be regarded as a pilot study designed to determine whether longitudinal data are indeed necessary to provide a sound assessment of the career development of college students and how such data might best be used and interpreted. In keeping with this last objective, a section providing recommendations for a larger study focussing exclusively on college students is included.

Summary and Conclusions

In the process of preparing numerous case histories of young men enrolled in or graduated from certain curriculum fields and also as a result of tabular analysis of graduates by curriculum field, a number of conclusions have been tentatively suggested. They are not entirely new conclusions but rather confirmation of older ones and are brought together in a manner such that virtually any student might find in these conclusions some resemblance to his own status. Presumably also, the relative successes and failures in the career patterns of college graduates will provide those in high school who are considering college as well as those in college, some more realistic notion of what the future will hold for them. Virtually all of the case histories described in this report represent one or more of the findings summarized in the following paragraphs. Certainly all of the conclusions described below call for further investigation to develop more definitive findings.

1. There is an enormous diversity in the background of students even when they are grouped into relatively homogenous curriculum categories. Among all the students there are some who were raised on farms, some in small towns, and some in large cities. Most are native born but a significant number were born in other lands. Some came from wealthy well-educated families and others from uneducated families which were so poor that one cannot help but wonder how the decision to attend college was made and how even minimum tuition and other school expenses were met.

2. Many of the students show the clear effect of inadequate or no vocational guidance in their hopes and educational objectives. The evidence of this deficiency is more evident among the youngest and poorest students still in high school but there are cases of graduates entering occupations which they quickly find are unsuited to their needs and capabilities. Even among those who have been in the work force for two or three years, career changes are made which reflect a lack of knowledge of occupational options and personal capabilities.

3. Even in a world in which guidance was both accurate and abundant, many careers would be begun, terminated and changed as a result of exogenous and accidental events which are completely outside the control of the student. The death of a parent may cut off needed support; marriage and family responsibilities may require a student to stop his education because the school funds are needed elsewhere. The presence of a wife and child may cause a person to change to a job he does not truly like because the job provides higher pay. The occurrence of a tour of military duty may cut off a budding academic career or make one available because the student will have veteran's benefits which may permit him to attend college.

4. Most of the men in this study had vague career goals which were subject to many changes. Some part of this ambiguity undoubtedly was related to a lack of knowledge of the world of work but some was certainly related to indecisiveness or to an awareness that the world is rapidly changing and one must be prepared to change with it. Rather frequently, a young man's occupational goal appeared to be determined by the job he was currently doing and quite independent of any earlier aspirations. Vagueness in career goals differs greatly among the various curriculum fields. Young men studying mathematics, education, law

and medicine all appeared to maintain consistent goals during their academic careers. On the other hand, business graduates, engineers, scientists and social scientists, and graduates in the humanities and fine arts seemed much more likely to have no career objective or to change their goals frequently.

5. Higher education in the United States is clearly one of the most effective channels of upward intergenerational mobility and this, too, differed by curriculum field. Students in the education, law, and social science were most likely to have had fathers who had no formal education beyond the eighth grade. A much more expected finding is that education also provides a channel by which intergenerational stability is maintained. In the fields of medicine, law and education, numerous cases could be found in which the father or mother of the student was in the same occupation.

6. Evidence that an increasing proportion of students help support themselves by working both during summer vacations and during the school year is amply available. There is some additional evidence in the case histories described in this study that working while in school is related to the income of the parents and the curriculum in which the student is enrolled. There is also evidence that many of the college graduates continue to work after graduation in a job they held while they were still students. One convincing bit of evidence about the relation between work and curriculum is available from a comparison of law and medical students. Very few of the medical students did any work even during summer vacations while they were in medical school but almost all of the law students worked and often held full-time jobs while in law school. Some of this difference may be due to the demands of medical school training which require full time and attention and which usually cannot be undertaken on a part-time basis. On the other hand, many law schools provide part-time programs thus permitting many who need a legal background to advance in their field to study law without interrupting their earning pattern. One may also hypothesize that students in curriculum fields which are characterized by a low socioeconomic background of parents may find it more necessary to work than do students whose parents are more affluent.

7. There are enough cases of what might be called a second effort in the educational process to warrant some further investigation of this point. In some cases the second effort is brought about by the interruption of an educational program by a military tour of duty. At least one instance has been described in which the student showed absolutely no interest in college until after he completed a military tour of duty. Other second efforts came about apparently as a result of a young man becoming aware that his promotional possibilities would be improved if he had a graduate degree. Such second efforts are more likely to succeed if the student can work full time while continuing his education. Not all of these instances produce desirable results, however. At least one student entered college after four or five years of work and after one year had dropped out of school.

8. A final conclusion deals not with the substance but rather the method of study. The advantages of longitudinal studies over cross-sectional studies in measuring career development are made very obvious by examination of the case histories. Longitudinal analysis might show that a person who graduated as a teacher in 1966 and could not find a teaching job became a salesman or truckdriver

in 1967. However, the longitudinal measure taken in 1968 might well show the same person happily settled into a teaching career which extended into the next several years. Similarly, a person who graduated as an engineer might have found a job as an engineer immediately after graduation but in the following year might be working as a truckdriver. In the first case a single time cross-sectional analysis would have shown a failure in a teaching career and in the second case, a success in an engineering career, both of which would have been deceptive.

Employment Experience of Graduates

The following discussion of the background, employment experience and earnings of young men who had at least a bachelor's degree in 1966 is based on tabulations of a limited number of variables which were clearly related to the career development of the young men and on a simple count of certain of their characteristics. It should be kept in mind that the data described relate only to men who have completed a four-year undergraduate degree and for that reason their characteristics and background will differ significantly from all men who are enrolled in the various curriculum fields. For example, the socioeconomic background of these men will probably be at a higher level than for all male undergraduate students.

The case histories which are described in a following section include some undergraduate students as well as a larger number of graduates in order to provide some insights into the characteristics and awareness of the world of work of both groups. Greater emphasis was placed on the graduates because most of them had four years of significant work experience during the survey period and this phenomena was deemed the most significant aspect of this study.

Because of the very small number of sample cases in each of the curriculum categories, conclusions have been limited to major differences in their characteristics and work histories. However, the cases are taken from a scientifically selected sample designed to represent all men in the United States who were 14 to 24 years of age in 1966. Although one would feel more comfortable with a larger sample, the conclusions reached seem reasonable and consistent with general knowledge on this subject.

Business Administration Graduates

Six out of ten of the 27 young men who had a bachelor's degree in business administration in 1966 were the children of men who had never attended college (Table 1). Sixteen percent of the fathers had no more than eighth grade education. Not surprisingly, almost 40 percent of the fathers had jobs as managers or administrators (Table 2). This proportion was the second largest of any of the curriculum groups for which data were available.

Relatively few of the business graduates had taken any graduate work. Only 41 percent of these men had taken as much as one year of graduate work,

TABLE 1. EDUCATION OF FATHER AND CURRICULUM FIELD OF MALE COLLEGE GRADUATES[1]

Curriculum Field	Years of School Completed By Father					
	Number Reporting	Percent Distribution				
		Total	0-8	9-12	13-15	16 and over
Business	25	100	16	44	16	24
Education	23	100	30	52	4	13
Engineering	12	100	17	42	8	33
Humanities	16	100	20	47	6	27
Law	11	100	27	18	27	27
Medicine	10	100	0	40	20	40
Social Science	17	100	23	18	23	35

[1]Limited to men with at least a bachelor's degree in 1966.

Note: Figures are not shown in Tables 1-7 for categories in which fewer than 10 cases are reported.

TABLE 2: OCCUPATION OF FATHER AND CURRICULUM FIELD OF MALE COLLEGE GRADUATES[1]

Curriculum Field	Occupation of Father						
	Number Reporting	Percent Distribution					
		Total	A	B	C	D	E
Business	22	100	22	36	14	14	14
Education	27	100	11	22	22	37	7
Engineering	11	100	36	27	0	27	9
Humanities	16	100	19	12	25	38	6
Law	11	100	18	36	27	18	0
Medicine	10	100	40	30	20	10	0
Social Science	19	100	21	53	5	5	16

[1] Limited to men with at least a bachelors degree in 1966.
A = professional and technical; B = managers and administrators; C = clerical and sales; D = craft and operatives; E = laborers and service workers.

the lowest proportion of any of the curriculum groups (Table 3).[1] Business graduates were more likely to have had a variety of different jobs during the four years than were the other graduates. Only 43 percent of these men had worked in the same occupation and industry for three or more years during the four-year period of the study (Table 4). Most of the stable group worked as accountants. The job changers worked in a wide variety of occupations. A high proportion of the business graduates (36 percent) never had a job which corresponded with the occupation they said they would like to be doing when they reached their thirtieth birthday (Table 5).

All of the business graduates had a job that at least sometime during the four-year period appeared to be related to their degree specialty. Ten had jobs as managers or administrators in 1969, seven were accountants and the rest were in a variety of occupations such as salesmen, sales engineers, buyers and other occupations which were professional in nature. Many of this group had a progression of jobs during the four-year period, beginning with clerical and sales work and then progressing to a managerial or professional job. Some of the upgrading was undoubtedly related to an exaggeration of responsibilities because pay increases for these men were moderate. On the other hand, one young man who changed his industry several times but continued to describe his work as managerial or administrative, increased his earnings from $10,000 in 1966 to $15,000 in 1969.

Business graduates had the largest increases in earnings between 1966 and 1969 and also had the highest pay levels in the latter year. Over 60 percent of the business graduates were earning at least 50 percent more in 1969 than in 1966 (Table 6). Almost two out of three were earning more than $10,000 and about one in three was earning $12,500 or more in 1969 (Table 7).

Education Graduates

There were a total of 32 young men who had a bachelor's degree in education in 1966. The educational background of these men was the lowest of any of the curriculum groups. Less than one in five had fathers who had ever attended college. They also had the smallest proportion of fathers who had professional or technical jobs and the highest proportion of fathers who were working as craftsmen or operatives.

Occupational stability was very high among the education graduates as three out of four worked as teachers for at least three years of the survey period. They also had the highest proportion (65 percent) of any of the curriculum groups whose current occupation and desired occupation corresponded for at least two years of the four-year period. Although most of these men were teachers and preferred that kind of work, there was at least one young man who worked as a shoe and clothing salesman during all four years and apparently never wanted to teach. There were also a few who taught for a year or two and then shifted to sales work and wanted to continue in that type of work. At least in one case, the shift actually resulted in a reduction of pay.

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[1] Men who were enrolled in or graduated from law or medical schools were excluded from several tables because of the specialized nature of their training, and the fact that all had to have graduate work.

TABLE 3. PERCENT OF MALE COLLEGE GRADUATES[1] WHO HAVE COMPLETED AT LEAST 1 YEAR OF GRADUATE WORK BY UNDERGRADUATE CURRICULUM FIELD

Curriculum Field	Percent
Business	41
Education	55
Engineering	92
Humanities	71
Mathematics	66
Social Science	52

[1]Limited to men with at least a bachelor's degree in 1966.

TABLE 4. OCCUPATIONAL AND INDUSTRIAL CHANGES, 1966-1969--MALE COLLEGE GRADUATES,[1] BY CURRICULUM FIELD

Curriculum Field	Number Reporting	Percent Distribution				
		Total	Same Occupation			
			3 or more years Same Industry		1 or 2 years Same Industry	
			3 or more years	1 or 2 years	2 or more years	1 Year
Business	23	100	43	17	35	4
Education	31	100	74	3	13	10
Humanities	10	100	60	10	10	20
Social Science	15	100	80	7	7	7

[1]Limited to men with at least a bachelor's degree in 1966.

TABLE 5. CORRESPONDENCE BETWEEN DESIRED OCCUPATION AT AGE 30 AND ACTUAL OCCUPATION, MALE COLLEGE GRADUATES[1] BY CURRICULUM FIELD—1966-1969

Curriculum Field	Number Reporting	Percent Distribution			
		Total	Same 2 or more Years	Same 1 Year	Never Same
Business	22	100	46	18	36
Education	31	100	65	26	10
Humanities	11	100	45	36	18
Social Science	14	100	36	14	50

[1]Limited to men with at least a bachelor's degree in 1966.

TABLE 6. PERCENT INCREASE IN ANNUAL EARNINGS 1966-1969, OF MALE COLLEGE GRADUATES[1] BY CURRICULUM FIELD

Curriculum Field	Number Reporting	Percent Increase in Annual Earnings			
		Total	No Gain-19%	20-49%	50% and over
Business	23	100	13	26	61
Education	28	100	21	38	41
Humanities	9	100	22	33	44
Social Science	15	100	20	20	60

[1]Limited to men with at least a bachelor's degree in 1966.

TABLE 7. ANNUAL EARNINGS IN 1969 OF MALE COLLEGE GRADUATE,[1] BY CURRICULUM FIELD

Curriculum Field	Number Reporting	1969 Annual Earnings					
		% Total	0-5000	5000-7500	7500-10,000	10,000-12,500	12,500 and over
Business	26	100	4	8	24	32	32
Education	29	100	0	14	52	24	10
Humanities	10	100	0	40	30	20	10
Social Science	17	100	0	18	24	47	12

[1]Limited to men with at least a bachelor's degree in 1966.

In terms of salary increases, this group did less well than any of the other curriculum groups between 1966 and 1969. Only about two out of five had salary increases of 50 percent or more. In addition salary levels were relatively low for these men as only about one-third were receiving at least $10,000 in 1969.

Engineering Graduates

Almost 60 percent of the 12 engineering graduates had fathers who had never gone to college but about one-third had completed a bachelor's degree. Over one-third of the fathers worked in professional occupations and slightly over one-fourth had managerial or administrative jobs. Contrary to expectations, the proportion of fathers who worked in craft or operative jobs was not unusually high for this group and the proportion who worked as laborers or in service jobs was also about average for this group.

Almost all took graduate training and most were working at full-time jobs while continuing their education. All of these men were employed as engineers in at least one year during the 1966-69 period and most had engineering jobs in the last year of the study. However, engineering work did not appeal to many as a lifetime occupation as over half of the men who were engineers in 1969 hoped to change their job to a managerial occupation by the time they reached their thirtieth birthday.

Graduates in the Humanities

There were 16 men who had a bachelor's degree in the humanities in 1966. They were second only to the education graduates in having the largest proportion of fathers who had never attended college. About one-fourth of these men had fathers who had completed at least a four-year college education compared with only 13 percent of the education graduates. The occupations of the fathers of these men also reflected their educational status as only 31 percent had fathers who were professional or managerial workers and 63 percent had fathers who worked in clerical, sales, craft or operative jobs.

Despite their humble origins, this group had one of the highest proportions who had completed at least one year of graduate school. Occupational and industrial mobility was about average for this group as six out of ten continued to work in the same occupation and industry for at least three of the four years of the study. About three out of four of these graduates found jobs as teachers or as clergy. Salary increases during the four-year period of the study were moderate for this group as 44 percent increased their annual earnings by at least 50 percent, a figure slightly higher than for the education graduates but well below the business graduates. Graduates in the humanities also had the largest proportion (40 percent) who were earning less than $7,500 a year in 1969.

Law Students and Graduates

There were eleven men in this study who were law students or graduates. All had a bachelor's degree in 1966 but none were identified as law students or graduates until 1967 or later. Since these men are relatively young and since law school is usually at least a three-year program many were still in school

in 1969. For this group, the data on occupational mobility and earnings are relatively insignificant and are not shown in the tables.

The fathers of these men were among the best educated of all the curriculum categories. Over half had completed at least one year of college and a fourth were college graduates. A surprisingly large proportion (27 percent) of all these men had fathers who had no more than eight years of school.

Of the seven who were law graduates in 1969, three were working as lawyers, two as industrial relations experts, one as an FBI agent and one an insurance agent. Of the four who were still in school, one was a full-time law enforcement official, one was a full-time teacher, one a part-time real estate salesman and one did not work.

Mathematics Graduates

There were nine men who had a bachelor's degree in mathematics in 1966. The educational and occupational background of the fathers of these men had two unusual features. None of the fathers had completed less than eight years of school and none were managers or administrators.

Two-thirds of these men had taken at least one year of graduate work. In the last year of the survey, three of the men were college teachers, three taught in high schools, one was an actuary and one worked in an unrelated professional field. One had just returned from a tour of military duty and had not resumed a work career. Considering the entire four-year period, two of the graduates taught in a high school for at least two years and in a college for the remaining period; four taught in a high school all four years; one taught high school for three years and then became a statistician, and one was an actuary for all four years.

Job satisfaction was high among the mathematicians. Of the eight men for whom information is available in 1969, seven stated that their long-range career objective coincided with the job they held.

Medical Students and Graduates

There were ten young men in this study who were enrolled in or graduated from a medical curriculum. As was true of the law students, men in the medical curriculum were not identified until 1967 or later and many were still students during much of the 1966-69 period. Because of this latter consideration and the specificity of medical training, questions on job mobility and earnings have little meaning for this group.

As might be expected, the fathers of the medical students were more likely to be college graduates than were the fathers of other students in this study. Forty percent were graduates of a four-year program and another 20 percent had completed at least one year of college. Similarly, 40 percent of the fathers were professional workers and another 30 percent were managers and administrators.

The young men who were in medical studies are marked by a single mindedness of purpose--that of becoming a doctor. Of the ten men in this group, all were in their first or second year of medical school in 1966 and all but one subsequently worked one or two years as interns in a hospital. One of the group worked as a medical technician after receiving his medical degree. Outside work while in medical school was virtually unheard of but during their internship program these men all worked more than 70 hours a week and received very low pay.

Social Science Graduates

The socioeconomic background of these 21 men was unusual in that 35 percent of their fathers had completed a four-year college education, the second highest proportion for all the groups. Over half of these men had fathers who were managers or administrators, again the highest proportion of any of the groups.

Graduate training was on the low side for these men as only 52 percent had completed at least one year of graduate school. They were the most stable job holders of any group with 80 percent having the same occupation and industry for at least three years. However, they also had the highest proportion of people whose job aspirations did not correspond to the job they held. There were no particular occupations in which large numbers of these men worked after graduation but college teaching, high school teaching, sales and management jobs were popular. Despite the seeming lack of specificity in their training, social science graduates enjoyed the highest rate of salary increase between 1966 and 1969 and they had the second highest proportion of any group earning $10,000 or more in 1969.

Case Histories

The following is a description of numerous case histories of young men enrolled in or graduated from certain curriculum fields. The selection of cases was done by choosing one or two cases from most age groups in the curriculum fields. The cases are identified by a letter in lieu of a name and the earlier letters generally represent younger men. In those cases in which a career was found to be virtually identical to another, or to several others, a single most representative case was chosen so that the career case histories should not be considered as randomly selected but rather a description of more or less unique cases. In each case, an attempt had been made to relate the individual record to the summary points listed at the beginning of this report.

Students in Business Administration

Young men enrolled as business students typically came from rather well-educated families and fairly comfortable homes. As a group, they had exhibited no particular interest in any field of study while in high school, although most had taken college preparatory course in anticipation of attending college. Most worked in order to help pay college expenses and many worked on part-time jobs during the entire school year. Very few had specific occupational goals and typically such goals, when they were expressed, were managers or administrators.

"A"--A case of exogenous factors affecting a career (the separation or divorce of his parents) and poor vocational counselling.

"A" was 17 when he was first interviewed in 1966 and was in his last year of high school. His father had completed five years of college and his mother three years. Both parents worked at full-time year round jobs. "A's" father was a consumer advisor and his mother a librarian. His older brother was in his third year of college. The family income was about $12,000 a year.

While still in high school, "A" planned to attend college and wanted to complete seven years. He planned to study biology and health sciences. "A" had a summer job in 1966 as a recreational worker in a city playground. His occupational goal at age 30 was to become a pharmacist.

The following year, "A" was enrolled in college as he had planned. His educational goal was about the same as in 1966 but he was now unsure of his occupational goal. "A" had a summer job as a surveyor's assistant for an engineering firm at which he earned $150 per week. He was looking for a part-time job during the school year but was not employed at the time of the survey.

"A's" third scene showed him still enrolled in college, but his educational goal had dropped to four years of college. His father was no longer in the family household and possibly the awareness of the costs of his education has caused "A" to reconsider his goal. He was again unemployed at the time of the survey although he had worked during his summer vacation as a farm laborer earning $60 a week. "A" would like to get into a business management position by the time he is 30 years old.

When we last see "A," he was in his junior year and had firmed up his academic goal in a four-year business curriculum. His mother was still working full-time and providing "A's" major support. "A" was not looking for work at that time but had worked during his summer vacation as a surveyor's assistant earning $2.00 an hour. His occupational goal remained the same as in 1968.

"B"--An illustration of a combined work and school program which apparently aided in a smooth transition into a work career.

"B" was 18 and in his third year of college when he was first interviewed. "B's" father ran a small business and his mother taught school. She had graduated from college but "B's" father had not gone beyond high school.

Although "B's" progress was more rapid than others his age, he had not planned on going to college when he was in high school. He liked mathematics but wanted to work as a manager or administrator of a business when he reached age 30. "B" worked 20 hours a week as a bellhop during the school year and earned a significant part of his expenses.

By 1967, "B's" mother had remarried and his stepfather worked regularly as a salesman. His mother continued to teach in a secondary school. "B" was

still in school and still working about 20 hours a week in a retail clothing store earning $1.25 per hour. His occupational goal at age 30 was unchanged from 1966.

In 1968 "B" had graduated and was married to a girl he met in college. She had a full-time job as a teacher and he was working full-time as a clerk in an auto sales firm at $700 a month. "B" and his wife had moved to a city about 250 miles from where they had gone to school. "B" had made the transition from school to work with a minimum of friction and had had no unemployment during the past year.

The last scene with "B" shows him in a military base and although the picture is somewhat unclear, he seems to be in charge of the post supply depot.

"C"--An illustration of how the threat of military service may have limited "C's" career options.

"C" was 19 years old and in his second year of college in the fall of 1966. He had planned to go to college when he was in high school although there was no particular field of study that he liked. His long-range job plans were to be a business manager or administrator.

"C's" family clearly helped him achieve his educational goals. Both his father and mother had completed two years of college and an older brother had a four-year college degree. His father had his own business and his mother worked as a schoolteacher. Both of their jobs were full-time and the family income was about $20,000 a year.

In 1967, "C" was no longer in school and had a full-time job as a technician in a paper mill earning $6,300 a year. He still wanted to be a business manager. The final scene in 1968 shows "C" in a military uniform, presumably using his business education and technical experience in some administrative military duties.

"D"--An illustration of upward intergenerational mobility and changed occupational goals.

"D" was 20 years old and was in his senior year in college in 1966. His father owned and operated a farm. The family income was about $12,000. Neither parent had gone beyond high school and "D" had not planned to attend college when he was in high school. "D" enjoyed his college business courses and wanted to own and operate his own farm by the time he was 30 years old. He usually worked about 10 hours a week helping his father on the farm. He had worked most of the previous year.

During the following year "D" had received a B.A. in business administration and had married his high school sweetheart and they had one child. "D" had found a job as an accountant in a chemical plant and was earning about $500 a month. He had also worked for a short while as a salesman before finding his accounting job. He liked his job and hoped to be doing the same kind of work when he would be 30 years old. He was living in a city about 100 miles from

his parents' home. "D" had been unemployed for about three months in his first year out of college.

In 1968 "D" was still on the same job and had received a promotion and was now earning about $550 each month. In 1969, "D's" wife had taken a part-time housekeeping job because his job did not provide adequately for his family. He also hoped he could go back to school to get a masters degree. He was, however, not in school and still an accountant with the same firm. His monthly salary had increased to $615 but he was looking for a better job paying at least $750 a month.

"E"--An illustration of upward intergenerational mobility and vagueness and indecision in career objectives.

"E" was enrolled in his senior year of business college and hoping to become a lawyer by the time he was 30 years old. His father worked regularly as an electrician; his mother did not work. Neither parent had been educated beyond high school.

"E" had planned to attend college while he was still in high school but had no particular field in which he was interested. He had enjoyed his business curriculum in college. "E" had to support himself in college and worked 30 hours a week all year as a recreation leader in a local YMCA and earned $2.50 per hour.

The following year "E" was enrolled in law school. He had married and was living with his wife's family. His wife had a full-time secretarial job. "E" was not working in 1967 possibly because he found law school was very demanding.

In the following two years "E" continued in law school and his wife worked as a secretary. "E" had had a summer job as an agent in a brokerage firm and earned about $900 a month. In 1969 "E", however, was uncertain about his occupational objective possible because his course work was not going well or because he had come to dislike the prospect of working as a lawyer.

"F"--An illustration of a case of upward intergenerational mobility.

Neither "F's" background nor his high school record would have marked "F" as a prospective college student. His father owned and operated a small farm and his mother worked occasionally as a sales person. His father had only completed five years of school but his mother had two years of college.

He had shown no particular interest in any high school subject and had not taken a college preparatory course. Nevertheless, he had completed a two-year business course and was now working as a clerk for a firm that manufactured machinery while still attending school on a part-time basis. His earnings were about $4,000 a year. His occupational goal in 1966 was to become a purchasing agent.

In 1967, "F" married a girl he met in college and he had discontinued his part-time education without receiving any additional degrees. He had changed jobs and was now working in a minor administrative capacity in a shoe manufacturing firm. His salary was almost double his previous earnings at $7,500 a year. "F" had no particular occupational goal when he was interviewed in 1967. He had obtained his present job through a private employment agency.

"F" made rapid progress with his firm and remained in his job during 1968 and 1969. In 1969 his earnings had increased to almost $12,000 and except for a desire for higher salary, he liked his job and had no other occupational goal.

"G"--An illustration of the effects of exogenous factors on career development. The small town in which he lived in order to care for his elderly parents limited his earnings.

"G" achieved his occupational goal but his financial success was minimal. A careful examination of his entire interview record, however, provides many clues which help to explain his situation and his seeming lack of success.

"G" was 22 when he was first interviewed. He had completed a bachelor's degree in business administration and also completed one year of graduate work. He was working as an accountant for an accounting firm and earning $3,000 a year.

"G" was the youngest in a rather large family. His mother and father were both living and "G" lived at home with them. His father was 72 and worked only occasionally as a carpenter. Both he and "G's" mother had only completed high school. The family income was about $5,000 a year. They lived in a small town of about 25,000 population.

The origin of "G's" motivation to attend college is not apparent although he did take a college preparatory course in high school. His oldest brother had not gone beyond high school. "G" had gone to college in a nearby college town and had worked to support himself while in college. His first job after he graduated was as an usher in a theater but shortly thereafter he had obtained a job as an accountant for a local accounting firm. Although his pay was low, he remained at that job apparently because he felt an obligation to help his elderly parents by living at home. It is probably also true that the local accounting firm for which he worked was a marginal company which could afford only minimal salaries.

In 1967 and 1968, "G's" salary increased to $4,200 and $4,800 but remained unchanged in 1969. Nevertheless, he liked his job and although he aspired to a managerial job at substantially higher pay he continued to work for the same local firm, still living at home with his parents.

"H"--A straight line success story.

"H" was 23 when he first was interviewed. He had completed a B.A. in business administration in 1964 and had started working as an accountant in an accounting firm almost immediately after graduation.

"H" was married and had a two-year-old child. His father had not gone beyond high school and was working regularly at a semiskilled job. His mother had a regular part-time job. She too had discontinued her education after completing high school.

During the four years that "H" was interviewed, "H" worked full-time and his salary had increased from $9,400 per year in 1966 to $18,000 in 1969. He had obtained his first job through the school employment service and was still working on this same job in 1969. "H" enjoyed his accounting work and wanted to continue working in that occupation. He had not taken any additional education since his graduation and indeed wanted no more education.

"I"--A case of changing goals to achieve a higher salary.

"I's" career clearly reflects the influence and probably the help of his parents and also his struggle to succeed in a career which he had chosen. "I" was 23 when he was first interviewed and had completed a bachelor's degree in business administration. He had a regular full-time job as a high school teacher at which he earned about $6,500 a year. Although "I" lived by himself, the influence of his parents was clearly visible in his life style. His father was a professor at a small college and his mother taught elementary school. Both of his parents were college graduates.

"I" had enjoyed his business courses and although he was regularly working as a teacher, he wanted to become a salesman because he thought he could make more money in that pursuit. "I" had found a job selling automobiles in 1967 but financial success did not come as easily as he had hoped, for his annual salary was $5,000. His occupational goal was to remain as a salesman but he obviously had hoped to be earning much more. The following year he had married and was back again teaching school and earning the same salary as he had earned in 1965. He had also worked a short time as an electrician during the past year. "I" still hoped to find financial success as a salesman. Although he did substantially increase his earnings to $10,500 a year in 1969, his job was not in sales work but as a manager of a small insurance office. Even though he was not working at his preferred occupation, he indicated that his long-range occupational goal was the same as his present job.

"J"--A case of upward intergenerational mobility and high job mobility.

"J's" career is another illustration of the variety of ways in which a business graduate may succeed. He was 23 in 1966 and had just completed his bachelor's degree in business administration in June of that year. His family had not given much encouragement or help in his college career. Neither his father or his mother had completed high school and his father had worked most of his life as a laborer.

"J's" first job was as a clerk in a firm which manufactured electrical machinery. His annual salary was $6,500. At the time of his interview in the fall of 1966, he had no wish to get additional education and had no particular occupational goal.

The following year "J" was still working for the same firm but had taken a job as a shop foreman at a slight salary boost. He still had no specific occupational goal. In 1968, "J" was still working for the same firm but had increased his earnings slightly by taking a semiskilled production job in the plant. Undoubtedly, his willingness and ability to handle a variety of jobs and the broad experience he had gained on these jobs coupled with his education made him a rather valuable employee. Nevertheless, it was necessary for him to change employers before achieving his remarkable success. In 1969, he was working as a purchasing agent for a pottery manufacturing firm and earning $13,000 a year, double his previous year's salary.

Education

There were 104 young men in this sample whose degree objective or degree received was in education. Twenty-two cases were transcribed from the tape records and examined in detail for evidence of how teachers select their objective and also for evidence of the characteristics and a generalized work history of recent graduates in the field of education.

"A"--A case of inadequate counselling and a downshift in goals.

"A" was only 15 when he was interviewed but was in his third year of high school. His father had completed one year of college, managed a business and the family income was over $25,000. "A's" mother did not work.

"A's" goals were high. He wanted to become a doctor and expected to go at least seven years of college. He had a regular part-time job as a clerk at which he earned $1.35 per hour. "A's" situation and aspirations were much the same in 1967 except that he was working full-time as a warehouseman for a publishing firm.

After graduation from high school "A" dropped out of school during 1968 and had a full-time job as a laborer earning $100 a week. He still planned to become a doctor by the time he reached 30 years of age.

In "A's" last interview, he was back in school and was in the education curriculum. He now wanted to complete a bachelor's degree and had changed his occupational goal to that of a manager.

"B"--A case of inadequate counselling, vague goals, and an interrupted career.

"B" was 16 and in his last year of high school in 1966. His father had not completed high school and worked as a machine operator. His mother had not gone beyond high school and worked as a telephone operator. The family income was about $12,000 a year.

"B's" goals were modest and reflected a certain lack of awareness. He wanted to complete four years of college and wanted to be an electrician by the time he was 30. He had had a summer job as a park attendant but did not work during the school year.

In 1967, "B" was enrolled in an education curriculum and hoped to complete four years of college. His goal was to become a teacher. He was still living at home and did not work that year. The following year "B's" father had been out of work for six months and "B" dropped out of school and took a job as a laborer in a tobacco processing factory where he earned about $95 a week. He still wanted to complete a four-year degree program and become a teacher. In 1969, "B" was back in school still hoping to become a teacher.

"C"--A case of unrealistic goals and a lack of success.

"C" was 20 and in his third year of college when he was first interviewed. His father had completed high school and worked as a salesman. His mother had completed two years of college and worked as a schoolteacher.

"C" did not work during the school year although he had worked as a laborer during his summer vacation. He had no firm notions about how much additional education he would like to get or what kind of work he would like to have.

In 1967 "C's" educational goal had firmed up to a six-year program and his goal was to become a school administrator. He had again worked that year only during the summer vacation. In 1968, "C" had received his bachelor's degree and was not in school. He was working as a teacher earning $6,400 a year but disliked his job and wanted to become a surveyor at some future time. Our final view of "C" shows him working for $50 a week as a routeman for a dairy, not in school but still hoping to become a surveyor.

"D"--A case of intergenerational stability and success as a teacher.

"D" was 21 in 1966 and in his fifth year of college. He lived with his mother and grandfather. "D's" mother was a college graduate and worked as a schoolteacher. "D's" goal was also to become a schoolteacher. "D" usually worked about 20 hours a week as a cashier in a restaurant and earned about $100 a week.

By 1967, "D" had received his M.A. in education and was working full-time as a teacher and earning about $6,000 a year. He liked his work and hoped to continue to teach for several years.

No contact was made with "D" in 1968 but in 1969 it seemed clear that the career pattern that was developing in 1967 was in full bloom. Not only was "D" still working as a teacher, earning $8,400 a year, but he had also married a schoolteacher. He was working long hours (at least 50 hours) and enjoying his work very much. One significant change was noted in 1969--"D" no longer wanted to be a teacher but hoped to become a principal in the near future.

"E"--A goal achieved and discarded.

"E's" career pattern illustrates how deceptive apparent success can be. His initial job as a teacher was completely consistent with his education and

his work was attractive enough to be regarded as his long-range goal. His subsequent career shifts are conclusive evidence that his initial interview, despite its consistency with his education, did not provide adequate information for a good description of his long-range career.

His background would indicate that he would be a college graduate and probably a teacher. His mother was a college graduate and worked as a teacher. His father had died when "E" was young and his mother never remarried.

"E" was 23 years old in 1966, had completed a B.A. in education in 1965 and was working as a high school teacher at a salary of about $6,000 a year. "E" had had a hard time finding a teaching job after his graduation and had worked as a salesman after being unable to find a teaching job for several months. He liked his teaching job and was clearly hoping to be able to continue in that occupation for many years. He was married in 1966 and his wife also worked as a teacher.

The following year, "E" had left his teaching job and was working as a mathematician for a manufacturer of office machines and earning about $8,500 a year. His long-range occupational goal had changed and he no longer wanted to teach and was hoping to find a job as a manager or administrator in a large company. In 1968, he was still employed as a mathematician for the same firm and his earnings were only slightly improved over 1967. He hoped to become a salesman by the time he reached his thirtieth birthday. Incidentally, "E's" wife had also changed jobs and in both 1968 and 1969 was working part-time in a retail sales store. Her job shift may not have related to her dislike of teaching but probably reflected her need for more flexible hours of work in order to care for a newborn child.

In 1969, "E" had changed jobs again and this time to a job he had hoped to bet the previous year. He was working as a salesman for a manufacturer of office machines, earning about $10,000 a year and enjoying his work very much.

"F"--A false start in a teaching career with subsequent success in another field.

"F's" career was unusual in that he was unable to get a teaching job initially after graduation but subsequently did so and appeared to be settled into a good career at the end of his fourth interview.

"F" had been graduated in 1965 with a B.A. in education. His initial job when he graduated was a teacher but he had lost that job and in the fall of 1966 was working as an engineering technician for a manufacturing firm and earning about $7,500 a year. "F" still hoped to get back into teaching as this was his long-range occupational goal. In the fall of 1967, "F" had found another teaching job and was earning about the same as he had as a technician. He had also gotten married in 1967 and his wife was working as a secretary. "F" remained in that job through 1968 and 1969 and his salary had increased each year and was about $10,000 in 1969. He liked his job very much and planned to continue as a teacher.

"G"--A case of shifting goals but probable career progress.

"G" was 22 years old and in his first year of graduate school in 1966. He had received a B.A. in agricultural science and was taking graduate training in education. Neither of "G's" parents had gone beyond high school but a young brother was currently attending college. "G's" parents almost certainly encouraged him and his brother to get a college education and both parents worked at full-time jobs in order to make that possible.

In addition to his education "G" had a part-time job as a laborer in a plant in the town in which he lived. His occupational goal at the time of his first interview was to become an agricultural scientist.

In 1967, "G" received an M.A. in education and had begun a full-time job as a teacher in the local high school. His salary was just over $5,000 a year. He no longer hoped to become an agricultural scientist but no other specific goal had replaced his earlier objective.

During the following two years, "G" continued to teach and his annual salary increased to $7,600 by 1969. He liked his job very much but hoped that ultimately he would become a high school principal.

"H"--A straight line teaching career.

"H" trained for, worked at, and enjoyed a teaching job during all the four years he was in the study. He was 21 in 1966, had a B.A. in education and was working as a teacher at a salary just under $5,000 a year. "H's" financial situation was helped considerably by the income earned by his wife who incidentally also worked as a teacher.

"H's" life had been rather difficult. His father had died when he was in high school, and "H" had to help support his mother. Neither parent had continued their education beyond high school.

"H" continued to work as a teacher during the following three years as did "H's" wife. He enjoyed teaching and in each year indicated that teaching was his preferred occupation for the future. His salary increased steadily each year and was $8,300 in 1969. Although he liked his job and wanted to continue working as a teacher, he was looking for a teaching job which would pay about $1,000 more a year.

Engineering

There were 68 young men who were seeking a B.S. in engineering at sometime between 1966 and 1969, and 32 of them had a degree by 1969. Thirteen case histories were prepared.

Some broad generalizations may be made about the background and characteristics of engineers and young men planning to become engineers. Some of the

young men expressed an early interest in mathematics, science, or related subjects, and even spoke specifically of a college objective in engineering. Others indicated an interest in social sciences, humanities, or even vocational subjects. Some wanted a business or legal career. Most, however, expressed their intention to become engineers.

Virtually all of these young men worked at least during summer vacations and some even held full-time jobs even after they enrolled in college. Most entered college in the fall immediately following their high school graduation. Economic circumstances were obviously important in determining the continuity of their education but some simply chose to work for a year or two after high school before entering college.

"A"--A case of poor counselling and a lack of knowledge about the world of work.

"A's" interests were in scientific areas; his background was similar to that of many young men who begin an engineering curriculum. However, he appeared to lose interest in engineering as a career after one year in engineering school.

When "A" first came on stage in 1966 he was 15 years old and in his third year of high school. "A's" father was in his late forties and had spent most of his working years as a machinist. His mother worked as a technician. Both parents had completed some college. During the previous year, both parents had worked 50 or more weeks at full-time jobs and the family income of about $12,000 reflected this combined effort.

"A's" background and interest might be looked upon as almost ideal for an engineer. He had taken a college preparatory course and had particularly liked mathematics in high school. He had been raised in a large city and his home life was comfortable. His oldest brother was then age 23 but had not gone beyond high school. The 1967 picture of "A" and his family was unchanged from 1966 but "A" had firmed up his goal of wanting to be an electrical engineer.

The next scene, in 1968, shows "A," as he expected, enrolled in engineering school and aspiring to a four-year program. He had worked as a lineman for a telephone company during the summer months and had earned about $70 a week. In 1969, "A's" educational goal was still a four-year education but his interest in engineering as a career had waned. It is reasonable to assume that his initial year in engineering school was either beyond his capability or that he was surprised and unhappy about the content of his course work.

"B"--Another case of poor counselling and vague objectives.

"B" was subject to forces for and against his becoming an engineer. He also seems to have had almost no perception of the realities of the labor market as he changed his occupational goal several times and his goal in 1969 appeared to have only a limited relationship to his curriculum. "B's" father was a mechanic whose education had stopped after high school. His mother had completed three years of college and worked as a librarian. Both parents worked a full year at full-time jobs.

"B" was indeed a most unlikely prospect for an engineering curriculum. In his third year of high school in 1966, he liked social sciences, wanted a college education in business administration but ultimately wanted to become a lawyer--a presumably well-planned career. The signs were good for him to realize at least his educational goals because his older brother at the age of 22 had completed three years of college. He was a strong and ambitious young man and had worked several summers as a farm laborer.

In "B's" second (1967) scene, "B's" father apparently owned his own garage and gas station and the family income was about $25,000. Furthermore, "B" worked ten hours a week as a mechanic, presumably in his father's gas station, for 30 weeks during the preceding year. His earnings were $1.75 per hour.

"B" was not in school in 1968 but working on a full-time job as a clerk in a paper manufacturing plant. Although he again mentioned a four-year education as a goal, his occupational objective had changed to that of an athlete, a not altogether surprising choice for a strong boy who was raised on a farm and had spent many summers working as a farm laborer.

The last scene shows "B" in college where he was enrolled in an engineering curriculum. His occupational goal was to own or run a business. He felt the need for more education to get the kind of work he wanted. His last job had been as a laborer at $5.00 an hour during the summer of 1969. "B" was not at work in this last scene but was undoubtedly looking for at least part-time work.

"B's" career development was one of experimentation which presumably should have led him to make sound career choices. But based on his high school interests and his changing occupational goals, "B" was still far from knowing his career objectives.

"C"--An illustration of an upward intergenerational mobility, the effects of military service and a combined work and study program.

"C" had completed high school but was not in school when he was interviewed in 1966. His father was dead and his mother was a waitress and he lived by himself. He was 18 years old and working 52 hours a week as a cook and earning $1.25 per hour. His occupational goal was to become a teacher. "C" was in the army in 1967 and 1968. In 1969, when "C's" second scene takes place, he was married and his wife worked part-time as a salesperson. "C" was also working full-time at a year round job as an auto mechanic and earning almost $4.00 an hour. Although "C" was now enrolled in college in an engineering curriculum, his work schedule almost certainly precluded full-time school. His career objective was to become an electronic technician, an altogether constructive and feasible choice.

"D"--A case of upward intergenerational mobility and a combined work study program

"D" appears to have made constructive career choices in the face of much adversity. He was poor and his family life had been disrupted. He paid for virtually all of his educational expenses and his ultimate career objective seems to reflect a reasonable recognition of his academic potential and the realities of getting a college education.

"D" was 17 when he was first interviewed and was a freshman in college. Both his father and mother had full-year, full-time jobs. His father was a mechanic and his mother a charwoman. His father had completed high school but his mother had only eight years of school. They were both in their early fifties. An older brother who had completed three years of college also worked irregularly. The family income was about $12,000 a year.

"D" lived at home and attended college in his home town. He had worked 32 hours a week the previous summer as an unskilled laborer earning $2.60 per hour but he did not have a job when he was interviewed. His occupational goal was to become an industrial engineer.

The following year "D's" family situation had changed. His mother had remarried and his stepfather and she both were year-round, full-time workers. However, his stepfather was a janitor and possibly as a result the family income was about $5,500.

At the time of his second interview, "D" was still in college and had decided to major in engineering. He hoped to be able to get a masters degree. As in the previous year, he had worked only in the summer as a packer in a bakery. He earned $2.20 per hour but worked 64 hours a week.

In 1968, "D" was in his third year of college. He was working regularly during the school year, about 20 hours a week as a laborer for an automobile dealer at $1.60 per hour. His occupational goal had changed from industrial engineer to teacher but he still hoped to get a masters degree.

Unfortunately, there is no 1969 scene, as his family had moved and could not be reached. However, "D's" story through 1968 was the story of many engineers. He came from a relatively poor, and in this case, a disrupted family, and, by necessity, provided partial self-support. His 1968 shift to teaching as an occupational objective may have been the result of the strict academic demands of an engineering curriculum coupled with a time-consuming need for self-support.

"E"--A case of work and study and determination

"E's" career shows the results of good planning, probably some helpful counselling and a generous amount of determination to achieve his goals. He seemed well on his way to a successful engineering career.

"E's" mother and father both worked--he as a full-time, year-round manager of a small business, and she at a number of different sales and clerical jobs during the four-year period. Her work was somewhat irregular and the

family income was about $9,000 a year. Neither parent had more than a high school education.

"E" was a freshman when first interviewed. His ultimate interest in engineering had developed from a fondness for the study of mathematics when he was still in high school. He had worked during the summer of 1966 as an apprentice at about $2.00 per hour, a job which he left when he started school. His long-run occupational goal was to become an electrical engineer. "E" continued his education through 1967 but economic pressures forced him to drop out in 1968. He found a full-time job with the Federal government in an occupation related to engineering. He earned about $100 a week.

The final look at "E's" career showed that he was again in school, enrolled part-time in an engineering curriculum, and still working full-time at the same job he had in 1968.

"F"--A case of poor counselling and shifting goals.

"F's" career and academic objectives were erratic during all four years he was in the survey. There can be little doubt, however, that "F" will complete his education and find a suitable career, although his false starts and erratic goals will require some careful pulling together before he enters the labor market. One might well speculate that "F" will have several different occupational careers during his working lifetime.

"F" was 21 when first interviewed and had just begun his freshman year in college. He had always planned to go to college but engineering seemed unlikely as a career as he had particularly liked social science in high school. His occupational goal in 1966 was to become a chemist although subsequent interviews showed that this was only a vague wish. In addition to his schooling, he had a regular part-time job as a janitor at the school and earned $1.80 an hour.

"F's" parents had come to this country from Japan and both had completed a four-year college education. His father was employed full-time, year-round in a professional occupation (not engineering) and his mother worked irregularly as a payroll clerk. An older brother who had completed six years of college also lived in the family. He was employed as a dental technician. The family income was about $12,000.

In scene two of "F's" play, his family situation is unchanged except that the family income had increased. "F" hoped to complete a Ph.D. He was still in college, although his occupational goal had become indeterminate. He had a part-time job loading groceries in a supermarket at which he earned about $20 a week.

In 1968 "F's" mother worked very irregularly and the family income dropped. However he continued his education and helped pay his expenses by working as a full-time waiter for about 17 weeks during the summer and earned $135 per week. His occupational goal had again changed and he wanted to become a university professor.

The last picture shows "F" enrolled in college in an engineering curriculum. His family situation was unchanged but his academic goal was now limited to four years of college. He had worked the previous summer as a waiter, earning $1.80 per hour but had no job during the school year. His occupational goal had again changed and he now wanted to become an electrical engineer.

"G"--A case of an unsuccessful second effort.

"G" was 20 when first interviewed in 1966, married and with a young child to support. He had not gone beyond high school although his wife was enrolled as a first-year college student. She was also irregularly employed on a part-time job as a clerk.

"G" had never planned to attend college when he was in high school as he had taken a general course. Nevertheless his interests were largely scientific when he was in high school and he probably had aptitudes for engineering training. "G" had a full-time year round job as an electrician with a construction firm and was earning $110 a week. He had also worked the previous year but as an auto mechanic. With regard to his future, "G" neither wanted more education, nor did he have any particular long-range occupational goal.

Prior to his marriage, "G" had lived at home with his mother and father. His father had completed the eighth grade and his mother had graduated from high school. His mother had a full-time year-round job and his father worked as a watchman about the time "G" entered high school. "G's" home life was not likely to stimulate academic interests as magazines and newspapers were luxuries his family could not afford.

"G's" second scene shows him still at work on the same job and his wife is still enrolled in college. She also continued to work at a year-round clerical job but only twelve hours a week. By this time "G" had virtually decided that his electrician job was in fact his long-range occupational goal. In 1969 his wife's educational goal had become obvious as she was working as a professional nurse.

"G's" family situation had now begun to affect his aspirations. Possibly seeing his wife achieve her goal, possibly because of her encouragement and help, he enrolled in college as an engineer, although probably as a part-time student, and hoped to complete at least two years. He was still employed as a full-time, year-round electrician in the construction trade but was earning over $5.00 an hour.

In the last picture "G" had dropped out of school but continued at his electrician job at a pay rate of $6.65 per hour.

"H"--A case of upward intergenerational mobility and a successful career.

"H's" career is a good example of a well-planned and successful program in the face of very difficult obstacles. His father had been dead for several

years and his mother supported the family working at a full-time, full-year job as an operative in a factory. She had never gone to high school. The family income was about $7,000 a year. A younger brother was still in high school and working part-time most of the year.

"H" had taken a general course in high school and had obviously not intended to go to college. However, from the time of his first interview in 1966 until his last in 1969, his occupational and educational goals were to become an aeronautical engineer. He had a scholarship for the amount of his tuition and had worked summers as a full-time janitor in a chemical factory. "H" enjoyed his engineering studies and presumably did very well.

There was some evidence that "H's" resolution to become an aeronautical engineer was shaken by his economic and family conditions. In 1967 his occupational goal was uncertain although he continued his education without interruption.

In 1968 the scene shows "H" as a graduate engineer and working full-time as an aeronautical engineer at $9,000 per year. He had begun the job in April prior to graduation and had no unemployment prior to finding his job.

"H's" fourth and final scene showed him married to a schoolteacher who was also regularly employed. He had no further educational aspirations and his ultimate occupational goal was to remain an aeronautical engineer. He was employed on his same job but his annual salary had risen to $10,300.

"I"--An engineer who became a manager.

"I" was 24 years old when he was first interviewed and had graduated as an engineer in 1962. "I's" home life when he was growing up was rather austere. His father and mother had both completed high school and both worked, he as a barber and she in a variety of sales jobs. He was married and his wife and child were dependent on his earnings as his wife did not work. In 1966 "I" worked regularly as a sales engineer for a plumbing firm earning a little more than $10,000 per year. He liked his job and would only have changed jobs if offered a $4,000 raise. As a long-range occupational goal he wanted to be a manager or proprietor of his own business.

In 1967 "I" had begun a new job as a sales engineer selling various types of business equipment to manufacturers. His salary had indeed jumped even higher than his previous years' hopes and he earned $15,000 annually. His job was characterized by relatively long hours of work. His rapid progress was probably a reflection of his ambition and energy as his hours of work far exceeded the normal pattern.

In 1968 "I" was still on the same job but earning $22,000 and still putting in very long hours. Possibly because he felt that managing a business had better long-range potential, "I" had taken a $2,000 annual salary cut in order to become a business manager in the same firm. His occupational goal had been achieved and he was now willing to change firms only if given a $5,000 annual increase. His hours of work, however, continued to be far above the average for American workers.

Fine Arts

There were 17 young men whose degree objective or highest degree held was in the fine arts. Case histories were developed for only five of this group.

Fine arts students and graduates are characterized by indefinite occupational goals and difficulty in finding a job in the areas of their interest. Nevertheless, there were in this small sample, some who consistently wanted to become architects, artists, and authors and who, indeed, were able to find jobs which they wanted.

"A"--A case of inadequate counselling and shifting goals.

"A" was 16 and in his last year of high school in 1966. His father and mother had not gone beyond high school and his father worked as an insurance agent. He planned to go to college and mathematics was his favorite subject. His occupational goal was to become a teacher. He had a regular part-time job as a salesman.

After completing high school, he entered college and continued to work toward his goal of becoming a teacher. He also had a part-time job as a telephone operator. In 1968 he changed his educational objective to fine arts and hoped to become a religious worker. He was no longer working regularly during the school year but had worked as a salesman during the summer of 1968.

In 1969 he was still in school and his educational goal was the completion of a M.A. degree. His occupational goal was to become a church musician and his chances of attaining his goal seemed good as he was working part-time as a church musian.

"B"--A case of upward intergenerational mobility and consistent goals.

"B" was 17 and in his last year of high school in 1966. His father had a regular job as a machinist. Both parents had stopped their education after completing the eighth grade. "B" planned to get a bachelor's degree in engineering. He had a regular part-time job as a salesman during the school year. His goal when in high school was to become an architect and he persisted in this goal throughout the four-year period that he was in the survey.

As he planned, "B" was in college in 1967, but his educational objective had become a masters degree in engineering. He again worked regularly at a part-time job.

In 1968 "B" changed his curriculum to fine arts presumably to better achieve his goal of becoming an architect. He continued to help support himself with part-time work as a bookkeeper.

"B's" 1969 interview showed him still in school, working part-time as a bookkeeper, still hoping and expecting to become an architect.

"C"--A case of intergenerational stability and a downshift in goals.

"C" was 18 and in his second year of college when he was first interviewed. "C's" family were prosperous; his father managed a small business and earned about $20,000 a year. He had completed three years of college.

"C" enjoyed studying about people and, in fact, had a part-time job as a night club entertainer earning $5.00 an hour. Although "C" did not have firm ideas about how much education he would get, he did have a firm idea that he would like to become an actor. He remained firm in this aspiration during all four years of the survey.

When "C" was interviewed in 1967, his school and job situation was similar to 1966 but he had decided to get a masters degree. He also had a part-time job as a publicity man in a movie theater. By 1969 he had received a B.A. degree in fine arts and had a job paying $120 a week as a clerk in a brokerage house. He was married and no longer in school. At that point in his career, he clearly had not achieved his occupational goal.

"D"--A successful career beginning in music.

"D" was 21 in 1966 and had just completed a B.A. degree in the humanities. Both of "D's" parents had completed some college and his father had a masters degree. His family were all musically talented and both his mother and his father worked as musicians earning between $10,000 and $15,000 a year. "D" had a part-time job as a musician but in 1966 was undecided about his long-range career plans.

In 1967 "D" was doing graduate work in fine arts and was working part-time as a musician in a theater and earning $6.00 an hour. In 1967 "D" had made up his mind that he wanted to be a musician and he held fast to that plan during the remaining years of the study.

In 1968 he received a graduate degree in fine arts and discontinued his education. He still worked part-time as a musician in a theater, and beyond a doubt would pursue a musical career. However, in 1969 he entered the armed forces and no other information is available for him for 1969.

"E"--A case of poor counselling but subsequent success in fine arts.

"E" was 21 and in his third year of college in 1966. He had little encouragement from his parents for his educational plans. Neither had gone beyond high school and his father worked as a mechanic.

"E" did not work during the school year but had worked as a mining technician during summer vacations. "E's" long-range occupational goal in 1966 was to become a compositor for a newspaper. In 1967 "E" continued his education but had a regular part-time job as a hospital attendant. His occupational goal had changed and he wanted to become an artist.

He received a fine arts degree in 1968 and stopped his education. He had found a job as an illustrator for an advertising company and was earning $500 a month. In 1968, he felt this was to be his career goal. The following year, however, "E" had a job with the same firm as a compositor earning $6.00 an hour or about double his previous year's earnings.

Humanities

Forty-five students were enrolled in the humanities curriculum. Nine case histories were prepared.

"A"--A case of poor counselling and vague goals.

"A" was 15 and in his third (junior) year of high school when first interviewed. He planned to go to college and his favorite high school subject was mathematics. Neither of his parents had gone beyond high school graduation and both worked regularly. "A's" father was a mechanic and his mother a secretary. The family income was between $10,000 and $15,000 annually.

Although "A" wanted to get a bachelor's degree he had no idea of what he wanted to study or what kind of work he wanted to do. "A" had worked at a summer job as a stock clerk earning $1.30 an hour.

In 1967 "A's" family and school situation were little changed byt he now wanted to get a masters degree and had an occupational goal of becoming a sports announcer. He had had a summer job as a counter worker in a drive-in restaurant and earned $1.60 per hour.

In 1968 "A" was not in school, although he still wanted to receive a masters degree. He had just obtained a job as a hospital attendant and was earning $350 a month. His occupational goal had changed to that of becoming a teacher.

Our final interview with "A" shows him enrolled as a freshman in college and studying one of the humanities. He now wanted at least seven years of college and was aiming at a government job. He had a part-time job as a librarian.

"B"--A case of a downshift in occupational goals.

"B" was 18 and in his second year of college in 1966. "B's" father had completed only one year of college and worked full-time as bargeman. His mother worked as a part-time sales clerk. The family income was about $12,000.

When "B" had been in high school he had not planned a college career, although an older brother had completed a bachelor's degree. He had no particular academic or job goals but he enjoyed studying humanities. "B" did not work during the school year but had a job during his summer vacation.

In 1967 and 1968 "B's" family and school situation were much as they were in 1966. "B" had had a summer job as an airplane mechanic but had quit when he came back to school and was looking for a part-time job to help support himself. "B's" educational goals had firmed up and he wanted seven more years of college and wanted ultimately to become a lawyer.

The last interview with "B" showed a number of dramatic changes. He had graduated with a degree in humanities, was not in graduate school although he still hoped to become a lawyer. "B" had also married a girl he met at college who was now working as a teacher. They also had a child. "B" had a regular job as a high school teacher which he liked.

It is difficult to predict what "B's" future will bring. The responsibilities for raising a child make schooling difficult. On the other hand, a working wife may provide the help he needs. Probably his education will continue but on a part-time basis.

"C"--A case of upward intergenerational mobility and a downshift in goals.

"C" was 22 and had just received a B.A. in humanities in 1966. He had not planned on going to college when he was in high school and neither of his parents had attended college. His father had only completed the eighth grade. Both parents worked, his father as a clerk and his mother as a secretary.

"C" was not in school in 1966 and during his three subsequent interviews, he indicated that he wanted at least a masters degree but did not, in fact, return to school during this period.

His work history and aspirations were those of a man seeking to find a place in the world. In 1966, he wanted to become an airplane pilot but was working as a clerk in a woolen mill. He earned $115 a week. The following year he aspired to become a manager of a firm but was working as a salesman and earning $7,000 a year. In 1968, he was working as an analyst for a firm which manufactured office machines and earning about $11,000 a year.

In 1969 "C" was again working as a salesman, earning more than $15,000 a year. He had apparently found a compatible livelihood because his occupational goal was to remain a salesman.

"D"--A case of achieving a goal but only after many job shifts.

"D" had a B.A. in the humanities and had been out of school since 1964. During the four years of the survey, he had several different jobs. "D's" family background did not suggest that he would have gone to college as neither parent had completed more than four years of high school. Nevertheless, in 1966, "D" had a college degree.

When "D" was first interviewed in 1966, he was living with his parents, working as an art teacher in a local high school and earning about $5,500 a

year. He had no particular long-range occupational goals but he did like his teaching job very much. In 1967 "D" was still living at home with his parents and still working as an art teacher at a salary of about $6,000 a year. He no longer was completely happy in his job and was looking for a job as an artist.

In 1968 "D" was working as a guide in a private art gallery at a salary of almost $7,000 a year and still looking for a job as an artist. However, in order to obtain that job he had had to move almost 300 miles from his home. In 1969, "D" had changed jobs again and was working for the Federal government as an artist, earning $8,100 a year and reasonably satisfied with his work.

"E"--Another case of goal achievement with a false start.

"E" did not expect to go to college when he was in high school. His father had died when he was very young and his mother never remarried. She worked as a receptionist. Although "E" had not taken a college preparatory course in high school and despite dire financial problems faced by his mother, "E" had completed six years of college when he discontinued his education in 1966. His degree was in the humanities and his long-range occupational goal was to become a teacher.

In 1966, "E" was working as a painter on a construction site and earning about $75 a week and looking for a teaching job. By the fall of the following year, however, "E" had found a job teaching, which he liked very much. His starting salary was $7,000 a year. During the following two years, "E" continued working as a teacher as his salary increased to $8,700 in 1969. He continued to like the work and planned to remain as a teacher into the foreseeable future.

"F"--A case of upward intergenerational mobility but with no job success.

"F" was a young man who would not have been expected to attend college. Neither of his parents had continued their education beyond the tenth grade. Their home reflected the absence of elementary educational and cultural tools. "F's" father was a semiskilled machine operator and his mother frequently worked as a private household worker.

The disadvantages that "F" had to overcome to get a college degree did not end with his graduation. He had a different job in each of the four years he was in the survey and even as late as 1969, four years after his graduation, he had just lost his job and was looking for work at the time he was interviewed. In 1966, "F" had just completed his last year of college and was looking for work as an artist. The following year, he had a job in a local YMCA as an instructor and art teacher at a salary of about $5,000 a year. In 1968 he was working as an artist for an advertising agency at a salary of $4,000 a year and hoping to get valuable experience in the art world. He had also moved some 400 miles in order to find this job. In December 1968, he had obtained a job in the recreation department of the local government where he had been earning about $7,500 a year. However, he had been out of work since May of 1969 and was still unemployed in late fall at the time of his last interview.

"G"--A case of upward intergenerational mobility, and a second effort to increase earning capability.

"G" had completed a B.A. in the humanities in 1963 and had been working as a high school teacher since graduation. He appeared to like his job and seemed to be headed toward a long career as a teacher.

"G's" father had only completed grade school and had worked most of his life as a plumber. His mother worked as a supervisor in a small factory. Both parents worked regularly and provided the family with a comfortable life.

In 1966, after three years as a teacher, "G's" salary was only $5,200 a year. He was married to a girl he met at college and was quite happy at his job. Although he was not sure that he wanted to continue teaching as a career, he had no other occupational goal. In 1968, "G's" wife had also found a job as a teacher and although "G" continued at his full-time job, he had also enrolled part-time in law school. In 1969, "G" was still teaching high school, earning about $6,200 a year and still enrolled in law school and hoping to become a lawyer.

Law

There were 11 young men in this study who had received law degrees or were studying law at some time during the four years of the survey. Case histories are presented for all six who obtained a law degree by 1969 and for two others.

"A"--A case of intergenerational stability, and a work-study combination in law school.

"A" was 19 in 1966 and in his second year of college. Even at that early point in his career, he had decided that he wanted to become a lawyer. Although the four-year period during which he was in the survey does not provide enough of a career picture to determine whether his goal would be achieved, there are strong indications that he would succeed. His objective was restated in all four interviews; his father was a successful lawyer who earned over $25,000 a year and his wife's father was also a lawyer.

In addition to the inspiration provided by his father and father-in-law, "A" and his wife received financial help from their parents. Neither "A" nor his wife worked in 1966 or 1967 nor did they have any other outside financial help except that which came from their families. Furthermore, in 1966 "A" and his wife lived with his parents and in the following year, they lived with her parents.

By 1969, "A" had received a B.A. in business administration and had entered law school on a part-time basis. He and his wife were then living in their own home and "A" was working at a full-time job.

"B"--A case of upward intergenerational mobility, and a second effort in law school.

"B" illustrates that the study of law attracts a diverse group of people. "B's" father had left school after completing the eighth grade and he was working as a plumber. Although "B" did not know how much education his mother had had, her job as a supervisor in a small factory did not require much education. "B" was 24 years old in 1966, married and was not enrolled in school. He had a degree in humanities, and had been teaching high school since he had received his degree. His salary of $5,000 a year in this job in 1966 was not extraordinary except for its modesty. "B" had no particular long-range occupational plans. In 1967, "B" was still out of school, still teaching and his salary had increased slightly. His overall economic situation had improved, however, as his wife was also working as a part-time teacher.

The year 1968 saw a significant change in "B"s lifetime plans. He had enrolled in night law school although he continued to work at his teaching job. His annual salary was still below $6,000 although the family income was significantly boosted by his wife's full-time employment. In 1969, he continued working as a teacher, earning $6,150 per year and still pursuing his law degree.

"C"--An effective work-study combination to a legal career.

"C" was 24 years old, married and in his second year of law school in 1966. He had no children and his wife worked as a schoolteacher. Although "C" was enrolled in law school, he also had a full-time job in a law firm, and was earning $115 a week. Neither of "C's" parents had gone beyond high school although his father managed a small business.

"C's" family situation was unchanged in both 1967 and 1968 but in the latter year he had received his law degree and was working full-time as a lawyer and earning $150 a week. Although "C's" goals were ambiguous in both 1966 and 1967, in the following two years he clearly wanted to continue working as a lawyer. In his last interview in 1969, "C's" pay had jumped to $210 a week.

"D"--A work-study combination for a lawyer who changed his occupational goal.

"D" was 21 and in his first year of law school in 1966. During all the years while he was a law student, his occupational goal was to become a lawyer but his goal changed in 1969 after he received his degree.

"D" lived at home in 1966. Both of his parents were college graduates and his father worked as an engineer. "D's" undergraduate degree was in the social sciences. He had had a variety of summer jobs in 1966 and 1967 while he was still in law school but in 1968, "D" had obtained a part-time job as an adjuster for an insurance company. After receiving his law degree in 1969, "D" continued to work at that job on a full-time basis. His annual salary was about $8,000 a year and "D" appeared to have accepted his insurance job as a desirable long-range occupation.

"E"--A case of a lawyer unhappy in his work.

"E" was in his first year of law school in 1966 after having received a B.A. in business administration in 1965. "E" continued in law school but did not have a job in 1966 or 1967 although he was married and his wife had a full-time job as a secretary. Both of his parents had been graduated from college and they had helped him with his education. "E s" father worked as a salesman and his mother as a schoolteacher.

In 1968, "E" had a regular part-time job as a law clerk and was continuing his legal training. In 1969, "E" received a law degree and began working almost immediately after graduation as a lawyer for the state government. His salary was about $9,000 a year. The job, however, must have been disappointing for "E" because he indicated that he did not like his job and would change if any reasonable alternative should become available. It is reasonable to assume that an alternative in some other aspect of the legal profession might have been one of his most acceptable choices.

"F"--A case of adjustment to an unexpected opportunity.

"F" was 22 in 1966, married, had a B.A. in economics. He was enrolled part-time in law school. He had served three years in the Navy and had completed a substantial part of his degree requirements while in the service. He had met his wife while they were both in high school and she worked full-time as a secretary. "F" also managed a small real estate sales office, a job which required him to work virtually full-time. His annual earnings on his job were close to $7,500. "F's" parents were of modest means. His father and mother were both high school graduates and both worked as bookkeepers.

In 1967, "F" was still enrolled in law school on a part-time basis as he had a full-time job as an insurance adjuster. His salary at that time was $8,500 a year. His long-range occupational objective was the same as it had been in 1966--to practice law. In 1968, his personal situation was little different from 1967 except that he now had a one-year old daughter and his wife was no longer working. One major change had occurred, however. "F" had received his law degree and was no longer in school. He continued working at his job as an insurance adjuster but still hoped to practice law in the near future.

"F's" wife was back at work in 1969 and he had taken a job as a labor relations expert for an electrical machinery manufacturer. His salary on that job had jumped to $12,000 and he had decided that labor relations work would be his career choice and he no longer hoped to practice law.

"G"--Another case of adjustment to an available opportunity.

"G" was 23 years old in 1966. He had completed a B.A. in economics and was in his second year of law school. "G's" parents were well-educated

as both had completed more than four years of college. "G's" father was a civil engineer who earned about $20,000 a year. His mother did not work. "G's" parents were also helping to support a younger brother who was in his third year of college. Because the family resources were somewhat strained, "G" regularly worked about 20 hours a week as an office machine operator in a local bank.

1967 was a particularly eventful year for "G." He received a law degree, married a schoolteacher and took his first full-time job as a personnel and labor relations expert with a firm of management consultants. His annual salary was just under $8,000 a year. He regarded this job as a temporary expedient until he could find a job as a lawyer and his long-range occupational goal was to work as a lawyer.

Despite "G's" feelings about the temporary nature of his personnel and labor relations work, he continued to work in that occupation in both 1968 and 1969 although he worked for a large chemical manufacturer. His salary had increased from $8,500 in 1968 to about $10,000 in 1969 and not surprisingly, he had come to accept personnel and labor relations as a very attractive long-range occupational goal and was no longer hoping to practice law.

Mathematics

There were 29 men whose academic goal was in mathematics. Eight case histories were prepared.

"A"--An unfulfilled upshift in goals.

"A" was 18 and already in his second year of college when he was first interviewed. Neither his father nor his mother had completed high school and both worked. His father was a union official and his mother worked part-time as a sewing machine operator in a shirt factory. Their combined earnings were between $10,000 and $15,000 annually.

"A" was ahead of his age group in school and was undoubtedly a bright young man. Despite his parents' limited education "A" had planned to attend college when he was in high school. He liked mathematics and would ultimately receive a degree in mathematics. "A" was also strong and well-coordinated and used these talents as a part-time year-round athletic instructor in a local school. His goal was to become a high school mathematics teacher and he hoped to receive a Ph.D. in mathematics.

During 1967 and 1968 "A's" status was little changed. He was still enrolled in college and working part-time for the school. By 1968 he had set his occupational sights higher and wanted to become a college teacher.

In 1969, "A" received a bachelor of arts degree in mathematics and was no longer enrolled in college even though he still hoped to get a doctorate in mathematics and to become a college teacher. He had a job as a high school teacher and was earning $7,000 annually.

"B"--A well-directed career plan interrupted by military service.

"B" was 19 in 1966 and in his senior year in college. His family were well-educated as both had some graduate training beyond a bachelor's degree. "B's" father was a minister and his mother was a high school teacher. Their combined annual earnings were between $10,000 and $15,000.

"B" did not have a regular job when he was interviewed but he had worked as a business machine repairman during his school vacation and earned about $2.00 an hour. "B" was not sure of his occupational or his educational goals but he wanted a professional job of some type.

"B" received a B.A. degree with a major in mathematics in 1968 but was still enrolled in the fall of 1968 and hoped to complete a Ph.D. program. He had an assistantship at his college from which he earned about $6,000 a year. He aspired to be a high school teacher by the time he reached his thirtieth birthday.

"B's" well-organized and seemingly successful career was interrupted in 1969 as he entered the armed forces.

"C" A downshift in goals.

"C" was 19 and a senior in college when he was interviewed. His family life was disrupted as his father and mother had separated. "C's" mother worked as a bookkeeper and as an operator in a dry cleaning establishment. She had attended college for one year. The family income was about $8,000.

"C" had a part-time job as an assistant to a chemistry professor in his last year of school and earned about $20 a week. He wanted to be able to qualify as a college teacher.

"C" was not interviewed in 1967 but by 1968 he had received a B.A. degree in mathematics and had discontinued his education even though he ultimately wanted a Ph.D. He had not been able to find a job in his field of study and was working as a bartender. "C" had become discouraged in his job search and decided he would like to be a minister when he reached age 30.

His occupational objective was unchanged in 1969 but he had a job as an administrative assistant for the state government. He had not returned to school in 1969 and his mathematical background was of little use in his job.

"D"--An academic program after military service.

"D" might never have attended college but for the effects of military service. "D" was 21 in 1966, and in his first year of college. He had just returned from a three-year tour of duty in the Air Force and was apparently encouraged to return to school by his wife who had completed two years of

and by the availability of GI educational benefits.

"D" had continued his education during all four years of the survey and had aimed at becoming a high school mathematics teacher. During all of his college years, "D's" wife worked full-time as a technician and "D" had a variety of part-time jobs. In 1969, he was unemployed but had worked during his summer vacation as an inspector in a metal workshop.

"E"--An upshift in goals which was realized.

Among the mathematicians "E" was one of the most successful. He had a degree in mathematics and was already in his second year of graduate work when he was first interviewed. His father was an engineer and his mother worked irregularly as a social worker. Despite his successful academic progress "E" wanted only to teach in a high school. He was not working in 1966 when he was interviewed but had a substantial grant which paid for his tuition.

In 1967, he was still enrolled, still had his grant but also worked a few hours a week as a teaching assistant in mathematics. By 1968 "E" had raised his sights and wanted a job as a college teacher. He continued his teaching assistantship and was still working toward an advanced degree. In 1969, "E" had received a Ph.D. in mathematics and was working full-time as a college teacher and earning about $10,000 a year.

"F"--A case of intergenerational stability and achieved goals.

There are few career beginnings that might be regarded ideal types. "F" might be called such a type. His parents were professional workers, he always had planned to go to college, he did well in school, going on to do graduate work and then working for a while as a high school teacher and ultimately a college teacher. There appeared to be very little lost motion in his career development.

"F" was 22 in 1966, had received a bachelor's degree in mathematics in that year, was attending graduate school, and working part-time as a high school mathematics teacher at the time he was interviewed. His family had encouraged him to go to college and helped him considerably. His father was an accountant, although a self-made one, having only a high school diploma. His mother had completed a four-year college course and worked part-time as an artist and art teacher. The family income was about $20,000 a year.

In 1967, "F" was still in college but was now a graduate teaching assistant at his college and receiving $2,100 a year for his work. His occupational goal was to become a high school teacher.

The 1969 survey found "F" a full-fledged Ph.D. in mathematics, married to a girl he met in college, working full-time as a college teacher and earning $7,000 a year. His occupational goal was to continue as a college teacher.

"G"--An abrupt shift out of a teaching career.

"G" had received a B.A. in mathematics and planned to become a high school teacher. Neither his father nor his mother had completed high school. His father worked as an inspector for a manufacturing firm and his mother as a salesperson. His parents had apparently encouraged "G" to go to college as he had an older brother who had completed four years of college.

"G" had completed his B.A. in mathematics in 1965 and was no longer attending school in 1966 nor did he want any additional education. The lack of graduate education may have retarded his career but more probably "G" never liked teaching. Even during the several years when he had a full-time high school teaching job, he never indicated that he liked his work or that he intended to continue in that job. His salary had increased from $5,400 in 1966 to $7,200 in 1968.

In 1969, "G" became frustrated with teaching and lack of progress and he quit his job, moved in with his in-laws to save expenses, and after a few weeks of unemployment found himself a job as a manager of a local retail store. Although he had only been on the job for a few months when his last interview took place, and although the salary was about the same as he had been earning as a teacher, for the first time in his series of interviews he unequivocally stated that he liked his job very much and wanted to continue working at it for many years.

"H"--A case of intergenerational stability and job satisfaction as a teacher.

"H" was one of the most satisfied of the young men who found jobs as high school mathematics teachers. Throughout his entire four interviews, he worked as and wanted to remain a teacher. Although his pay level never exceeded $7,500 a year, he had a masters degree which he hoped would provide long-range upward mobility in his chosen profession. In addition he had been born and raised and still lived in a rural area where low living costs enabled him to live rather comfortably on a modest salary.

"H's" home life had stimulated his interest in teaching. His father had completed six years of college and was working as a high school teacher. His mother had not gone beyond high school but worked at a clerical job. His early efforts to get an education were somewhat frustrated by the lack of library facilities and limited curriculum in the local high school in the small community where he was raised.

Despite his frustrations he succeeded in getting a masters degree in mathematics in 1965. He was no longer in school in 1966 and apparently wanted no additional education. He had obtained a job as a high school teacher in 1965 and continued at that job during all four years of the study. His salary increased from $5,000 a year in 1966 to $7,500 in 1969. He had usually found jobs during school vacations in order to supplement his teaching salary.

"I"--A surprising success story

"I's" career was an unusually successful one particularly because he only completed a bachelor's degree. He was 24, married and employed as an actuary when he was first interviewed in 1966. "I" must have been a rather exceptional student as he had received his B.A. degree in mathematics in 1962 when he was only 20 years old. He was almost immediately hired by an insurance firm as an actuary and was still in that job in 1969.

"I's" success on his job was clearly indicated by substantial salary increases--from $9,500 a year in 1966 to $14,500 in 1969. His only reason for not being completely satisfied with his job was that he would have liked to earn $20,000 a year.

Medicine

Ten young men in this study were in or graduated from a medical curriculum. Case histories were prepared for all of these but one who refused to be interviewed in 1968 and 1969.

"A"--A case of upward intergenerational mobility.

"A" was a full-time medical student in 1966, and in his second year of medical school. He was married and his wife had a full-time job as a sales clerk. "A" was rather unusual among the medical students in that neither his mother nor his father had completed high school. His father worked as a building inspector for the city government and his mother did not work outside the home.

"A" did not have even a part-time job in 1966, 1967 or 1968. He had last worked during the summer of 1964 as a laborer, prior to the time he began medical school. He continued in medical school and in 1969 received a medical degree and was working as a hospital intern, earning about $10,000 a year and working 75 hours a week.

"B"--A typical medical career with an interruption.

"B's" career as a medical student and medical doctor is similar to most others in this group. He was 23 years old in 1966 and in his second year of medical school. His father had graduated from college and managed a small business. His mother had not gone beyond high school. They lived in a rather small town of 25,000 population.

"B's" career objective in all four years was to become a medical doctor. He, like many other doctors, married a nurse while he was still an intern. In 1967, when they were first married, she was still in nursing school but by 1968, she was employed as a full-time nurse.

In 1967, before he received his degree, "B" began work as an intern in a hospital at a salary of $3,600 a year. He received his degree in 1968 and continued working as an intern in 1968 at a slight increase in his

salary to $5,000. As might be expected his hours of work in both 1967 and 1968 were in excess of 75. Unfortunately, for purposes of this study, no data for "B" exists in 1969 for he had entered military service.

"C"--A diverse background, an unusual academic career and a goal outside of medicine.

In 1966 "C" was 24 years old and in his second year of medical school. Both of his parents were college-educated and both worked regularly. His father managed a business and his mother worked as a secretary. The family income was about $12,000 a year. Both of his parents had been born in Asia.

The uniqueness of "C's" career became evident during his first interview when he indicated that his undergraduate degree was in a social science unlike virtually all other medical students in this study. During 1966 and 1967, prior to the time he received his medical degree, "C" had a regular part-time job as a medical technician in a hospital earning $2.00 an hour.

In 1967, "C" continued to work part-time as a medical technician and also continued to live at home while completing his medical training. In both 1966 and 1967, "C" stated that his long-range career objective was to become a medical doctor.

In 1968, "C" received his medical degree and was employed as an intern, working about 100 hours a week and earning $6,000 a year. Something about the practice of medicine began to displease "C" at about this time and his occupational goal shifted to teaching in a medical school.

In 1969, "C" was still working the long hours of an intern in a hospital, earning about $10,000 but his occupational goal had become obscure although it specifically excluded the practice or teaching of medicine.

"D"--A case of upward intergenerational mobility.

"D" was in his second year of graduate medical school when he was first interviewed. He was married and his wife was a schoolteacher. "D" was unusual in that, unlike most young aspiring doctors, he had not come from a well-educated family. Neither his father nor his mother had gone beyond high school and his father had only completed the tenth grade. "D's" father worked as a stock clerk.

"D" worked regularly as a part-time medical aid at a high school and earned $125 a month. His long-range goal, which he was to realize, was to become a medical doctor. "D's" situation when he was interviewed in 1967 was a little different from 1966.

In the fall of 1968, "D" was no longer in school having received his medical degree earlier that year. He was now working as an intern in a hospital and working very long hours and his earnings were about $400 a month. His wife continued her teaching career. In 1969 "D" continued to work for the hospital, still working long hours, but his pay had doubled.

"E"--A medical program combined with part-time work.

"E's" medical career is distinguishable from others in this group primarily because of economic difficulties. His mother and father had completed only a high school education. "E's" father was a clergyman and his mother worked as a secretary. The family income was about $6,000 a year.

"E" was 23 in 1966, in his second year of medical school and living at home with his parents. His occupational goal was to become a medical doctor. Unlike most medical students, "E" had a summer job as a painter for a construction company. He worked about eight weeks during the summer and earned about $2,400.

In 1967, "E" was still living at home and in his last year of medical school. He did not have a regular part-time job but, as in 1966, he had had a summer job as a hospital attendant. The hours were long and the pay was only $1.00 an hour but his work was related to his career objective.

"E's" situation improved markedly in 1968. He had received his medical degree, had married a nurse he met at the hospital where he worked, and was working as an intern in a hospital. His hours of work were in excess of 80 and his pay was about $4,000 a year. In 1969, "E" continued working as an intern, his salary had increased to about $11,000 a year and his hours of work continued to exceed 50 a week. He liked his work and planned to continue as a medical doctor in the foreseeable future.

"F"--A case of intergenerational stability.

"F's" choice of a medical career was one of the most predictable from the background information available for him. His father was a medical doctor and his mother was a nurse. Furthermore, "F" lived at home until his last year in medical school. "F's" family lived a very comfortable life in a middle-sized city of about 100,000 population and "F" attended the local medical school. The family income in 1966 was over $25,000 a year.

"F" was 22 and in his second year of medical school in 1966. He, like most of the other medical students in this sample, had studied biology as an undergraduate. "F" worked at a summer job at the school during 1966 and 1967 but did not work at all during the school year. His occupational goal during all four years was clearly to become a doctor.

In 1969, "F" received his medical degree and was at work as an intern, working the usual long hours and at a salary of just under $7,000 a year.

"G"--a medical education combined with part-time work.

"G" was in his second year of medical school when he was first interviewed. His father was a pharmacist and his mother worked somewhat irregularly as a sales clerk. Even though "G" had substantial financial aid from

sources other than his family, he did work in the summer of 1966 as a golf coach at a summer resort. He did not work during the school year. During all of his four interviews he firmly held to his desire to become a doctor.

In 1967 "G" married a girl he met in college. His wife had a regular part-time job as a typist and "G" worked but only during summer vacations.

During 1968, "G's" circumstances were similar to 1967 except that he did not work at all.

"G" got his medical degree in 1969 and began his internship. He worked almost 100 hours a week in this capacity and earned about $150 a week.

Science

There were 67 men in this sample who had degrees in science or who were working toward a degree in science during the years 1966-69. Because of the very high proportion taking graduate training in the science field, there were several in this group who were in college during all four years subsequent to 1966. Work experience for these three was limited to part-time work as graduate assistants and little could be concluded of a definitive nature about their ultimate career development.

The young men in this study whose academic objectives or degrees were classified as science studied a wide variety of specific sciences such as biology, zoology, physics, chemistry, and many of the newer electronic and space-related fields. Of ten young men who had some type of scientific degree in 1966, only two had fathers who had college degrees and not unexpectedly those same two had fathers employed in a professional capacity. Every one of these men had taken some type of graduate work after receiving a bachelor's degree. Five of the ten were in graduate school either on a part-time or full-time basis in every year from 1966 to 1969 and another two were in school at least two out of the four years. Despite this implied detailed specialization, very few of the young men had a specific occupational goal which was consistently maintained during the four years and most of the graduates changed whatever occupational objective they had specified to correspond with the job in which they were working.

"A"--A case of intergenerational stability.

"A" was still in high school in 1966 and planning to attend college. His father was a college graduate working as a pharmacist. His mother was also a college graduate who worked fairly regularly as a salesperson. The family income was about $7,000 a year.

Much of "A's" family background indicated that he would attend college and in addition, mathematics was his favorite high school subject. His educational aim when he was in high school, however, was to obtain a business degree although this was later changed to science.

"A" was a healthy strong young man who worked summers while in high school as a house painter and general laborer. He had no long-range occupational goals in 1966.

By 1969 "A's" plans began to congeal. He changed schools, enrolled in a science curriculum and had made up his mind to follow his father's occupation as a pharmacist.

"B"--A case of inadequate counselling and vague goals.

"B" was a very good science student who was in his senior year in college at age 19. His family background was modest as his father worked as a farm laborer and his mother as a seamstress in a clothing factory. The family income was about $7,000.

Although "B" was obviously a very bright and hard-working student his lack of clear goals indicated that he had little counselling. Furthermore he enjoyed studying humanities more than any other subject, even though he chose to study in a scientific field. A final indication of the rather confused nature of his goals is the lack of an occupational goal in any of the four surveys even after he began working as a teacher.

When "B" was first interviewed in 1966 he had a part-time job as a clerk working for the college he attended. He earned $1.25 an hour. By 1967 "B" had received a degree in science and had married a girl he met in college. He was still enrolled part-time in an advanced degree program and was still working for the school but as a mechanic.

In 1968, "B" was still enrolled in school and working part-time as a high school teacher earning about $120 a month. In his final interview in 1969, "B" was in the armed forces--an experience which may have helped this indecisive young man to find a goal.

"C"--A straight line career.

"C" was a well-organized person whose family background indicated that he would be a good student. His father was a college graduate and his mother had completed two years of college. His father managed a small store and the family income was about $12,000 a year.

"C" was in his senior year in 1966 and had a part-time job as a laborer. His goal in 1966 and in each of the following years was to become a dentist and his continuation in graduate school from 1967 through 1969 clearly indicated that he was progressing toward the goal of becoming a dentist. Although "C" did not work in 1967, 1968 or 1969, he did have enough financial aid to pay for most of his tuition bill.

"D"--A case of occupational achievement but at low pay.

If success were measured by the ability to achieve one's goals, "D" would be successful. On the other hand, after several years of work and completion of a graduate degree, "D's" salary was only slightly more than $10,000 a year.

"D" was in his senior year of college in 1966, married to a girl he met in college who worked as a schoolteacher. He had a full-time job as a supervisor in a chemical manufacturing company. His goal, at that time, was to become a chemical technician. "D's" father was a chemist. He had completed two years of college although "D's" mother had not gone beyond the eighth grade.

In 1968, "D" received a degree in science but continued in school on a part-time basis while working full-time as a supervisor in the chemical plant. His earnings in 1966 and 1967 were somewhat under $8,000 a year. After receiving his B.A. in science, he set his educational sights on an advanced degree and his occupational sights on chemistry.

By 1968, "D" was still with his same employer but working as a chemist and hoping to continue to work in that capacity for many years. He was also still attending school on a part-time basis.

The following year, "D" was no longer in school, was still working full-time as a chemist and earning slightly under $10,000 a year. His occupational goal was to remain a chemist but he was seriously looking for a better-paying job.

"E"--A scientist with uncertain goals.

"E's" story is one of shifting goals, partial achievement and then a downshift to reflect what was probably a realistic choice of work and a long-range goal.

"E" was 22 in 1966, had just received his B.A. in science and was continuing his education in graduate school. He had worked during the summer of 1966 in a physics laboratory in his college. His occupational goal was vague--he wanted a professional type job, one in which he could use his education. "E's" parents were well-educated. His father worked as an electrical engineer.

In 1967, "E" was still in graduate school, still worked during the summer in a physics laboratory but had narrowed his occupational goal. He wanted to become some type of scientist. By 1968 "E" had finished a masters degree in science and was in the doctoral program. He was also working part-time as a college instructor and for the moment that occupation was his long-range goal. He was still in college in 1969 but was now teaching science part-time in a local high school and had adopted that occupation as his goal.

"F"--A case of a military duty interruption, a successful academic career and changing occupational goals.

"F" was 24 years old and in his first year of graduate school in 1966. He was older than other students in his class having spent three years in the Army prior to his enrollment in graduate school. He had had a B.S. in biology prior to his military duty and had returned to school in 1965 to continue his studies. His career as a student was inconsistent with his family background as his father had only completed eight years of grade school and his mother had only completed high school. Nevertheless, it is probable that

his father was one of the prime movers in encouraging "F" to get a good education because he was a tool and diemaker who earned over $25,000 a year but whose physically demanding job could make him appreciate the many advantages of having a scientific college degree.

Perhaps because of his maturity or his experience, "F" was able to get a part-time job as a biologist in a hospital in 1966 to help defray his expenses and also give him valuable practical experience. Although "F" was continuing his biological studies, he had no specific occupational objective when he was first interviewed. In 1967, "F" had received a graduate degree in biology and was no longer in school. He was employed full-time at the same job he had in 1966, as a biologist in a hospital. His occupational goal was to continue as a biologist. His annual salary in his job was $7,500 a year.

In 1968, "F" had married a nurse whom he had met at the hospital. He continued to work as a biologist but had changed his job and was working in a brewery at a salary about $2,000 more than he had received at the hospital. In response to the question on his long-range occupational goal, he said he would like to be an industrial engineer. In 1969, he was still working at the brewery but was classified as a master brewer and receiving $10,000 a year in salary and wanted to continue at that job in the foreseeable future.

"G"--A case of upward intergenerational mobility and career success.

"G" was clearly a spectacularly successful scientist even though his goals seemed vague until he found a job which then became his goal. 1966, "G" was in his second year of graduate school, having received a degree in engineering in 1964. He was married to his high school sweetheart and they had a two-year-old child. "G's" wife had a part-time job as a nurse during the following four years.

"G's" parents were not well-educated. His father had only finished elementary school and his mother had only finished high school. The basic capabilities of his parents were rather obvious as his father was a successful insurance agent and his mother managed a small business.

"G" had not worked at a full-time job since he entered graduate school but had obtained a $3,600 a year scholarship. In 1967, his situation was similar to 1966. In neither year did he have a specific occupational goal. By 1968, however, "G" received a Ph.D. in physics and was no longer enrolled in school. His family situation was unchanged and he now had a full-time job as a physicist. His starting salary was a rather startling $17,250 a year and this job had become his long-range occupational goal. He had moved over 1000 miles in order to take his job.

"H"--A case of upward intergenerational mobility and a straight line career.

"H" was 21 and in his first year of graduate school in 1966. He had received a B.S. in chemistry in 1965 and in 1966 was studying to become a

pharmacist. He also had a part-time job in that capacity. His background did not suggest that he would have attended college as neither his mother nor his father had gone beyond the eighth grade. The year 1966 was the only time in which "H" showed any indecision regarding his future career. In all later years from 1967 to 1969 he clearly wanted to become a pharmacist.

"H" continued his studies in 1967, and continued his job as a part-time pharmacist. In 1968, he had obtained a graduate degree in chemistry and was employed full-time in the pharmacy. In 1969, he was still working full-time as a pharmacist and earning about $9,500 a year.

"I"--A case of inadequate counselling and an upshift in goals.

An examination of the career development of young men who choose scientific fields gives the definite impression that these young men are adept at overcoming obstacles. "I", for example, would fit readily into this pattern. He had been brought up on a farm and neither parent had completed high school. His father, who had worked as a heavy machinery operator, had died and "I" and his mother continued to live on the farm with an uncle who ran the farm.

"I" had not planned on going to college when he was in high school and for one year after he graduated from high school, had continued to work the family farm. No clear evidence is available which would indicate how or why "I" decided to go to college, but by 1966 when he first came into the study, he had a B.S. in chemistry and was in his second year of graduate school. "I" was not working in 1966 but he had a generous amount of student aid which enabled him to remain in school. He had no specific occupational or educational goals at that time.

In 1967, "I" continued his education with the help of student aid but still had no specific occupational goal. He also received a masters degree in that year. In 1968, "I" continued his education and had a part-time teaching assistantship at the college. Despite his rather obvious success as a student, "I" indicated his occupational goal was only to teach in a high school. In the final year of the study, "I" was still working part-time on his doctorate in chemistry but he had a full-time teaching job teaching chemistry at the university. He was earning over $10,000 a year, liked his job fairly well and intended to make a career out of teaching college chemistry.

Social Science

One hundred and four young men in this sample described their academic objective or their degree in fields that were classified as social science. Case histories were prepared for nine of these men.

This group of students seems characterized by ambiguity with regard to their educational and occupational objectives. Those still in high school in 1966, seemed to be particularly unaware of the realities of the labor market. As might be expected because of the diversity of specialties included in this broad category, there were no particular career objectives

that were sought by the older students. Some of the students seemed to get jobs quite unrelated to their studies and most of this group had high job mobility during the four years of the survey.

An important exception to the above generalizations must be noted. A substantial number of social science students entered law schools and some even went into medical school after receiving a bachelor's degree in one of the social science fields.

"A"--A case of inadequate counselling and vague goals.

"A" was 18 in 1966 and in his first year of college. Neither of his parents had gone beyond high school. His father worked as a clerk and his mother as a secretary. Even in his freshman year, "A" worked to help support himself. His occupational goals, expressed in his first college year, appeared to be no more than a reflection of his inadequate knowledge of the labor market. His goal was to become a mechanic.

In 1968, "A" had decided to become a teacher and had begun his educational curriculum. He had no regular part-time job but had worked irregularly during most of the previous year as a salesman.

In 1969, "A" had again shifted his curriculum and now was enrolled in the School of Social Science. He had a regular part-time job as a laborer at which he earned about $2.00 an hour. Whatever notions he had in the past about a career objective had become lost, and in 1969 he had no career goal.

"B"--A case of shifting goals and an ability to adapt to the world of work.

"B" provides a good illustration of a rather successful young man whose education did not go beyond a B.A. degree in the social sciences. His relative success could reasonably be attributed to his own diligence and efforts, as there was no apparent assistance that he obtained from family or friends.

"B" was 19 and in his third year of college when he was first interviewed. His home life was somewhat disrupted. "B" lived with his mother, as his mother and father were separated. She had a full-time job as a real estate agent.

"B" did not work to support himself although he did have a loan which helped him pay his college expenses. During summer months he worked with his mother helping with her real estate business. Although he had no specific occupational goals, he did hope to get a job in a managerial or administrative capacity.

"B's" situation was little changed in 1967, but in 1968, he had received a B.A. in a social science field, and was working full-time as a salesman for a manufacturing firm. In 1968 he had changed his job and was working for a publishing firm as a salesman. His salary was $10,000 a year.

"C"--A case of upward intergenerational mobility and shifting goals to increase earnings.

"C" was one of the most successful students who had studied the social sciences despite his having to overcome numerous obstacles. "C" was 22 in 1966, and in his second year of graduate school. He had received a B.A. in education in 1964, and was working as a high school teacher earning just under $5,000 a year. He was married to a girl he met in college who had a full-time job as a professional nurse. "C" had been raised on a small farm in a home which had few of the basic learning tools which most middle-class homes enjoyed. His father had only finished elementary school and his mother had completed high school.

Although "C" had a full-time job as a high school teacher he was also enrolled in a graduate program in social science. His goal was to become a college teacher. In 1967, "C" continued teaching and going to graduate school on a part-time basis and received a graduate degree in social science in that year. In 1968, "C" was no longer in graduate school but he had continued to teach in high school. His salary had increased to $7,100 a year. However, he now had two young children and even though his wife continued to work, "C" was having a hard time making ends meet.

In an effort to increase his earnings, "C" had left his teaching job and had worked most of the previous year as a salesman, a job which he did not particularly like. Shortly before his final interview, "C" had again found a new job as an administrative assistant in an aircraft plant and was earning almost $10,000 a year.

"D"--A case of much job changing and little progress.

"D" was in his fourth year of college in 1966 and received a B.A. in social science in the following year. He lived in a small town with his father and mother. His father worked as a stock clerk and the family income was scarcely enough to support the basic family needs. "D's" father had never completed high school; his mother had completed college and had worked as a teacher. "D" had worked summers to help meet expenses of his college program.

After "D" graduated from college, he had worked for a short time as an insurance agent and somewhat later as an elementary schoolteacher. His salary at that time was $250 a month. When he was interviewed in the late fall of 1967, he had left his teaching job, was unemployed and looking for a new job. Throughout his entire college career and even after he began a work career he hoped to become a social worker but never succeeded in that goal. In 1968, "D's" situation was still unsettled and he was then working as a construction laborer and earning $1.00 an hour.

In the final interview in 1969, "D" was still living with his parents and working as a clerk for a medical supplies store, and earning about $100 a week. He had not given up his hope of becoming a social worker although he had not made any attempt to further his education after he had received his B.A. degree.

"E"--A case of vague goals and relative success in a work career.

Although "E" never seemed to have any firm goals regarding his career and changed his goals many times, he nevertheless progressed steadily.

"E" was 24, had completed one year of graduate school after completing a B.A. in social science, and had done no additional graduate work. Prior to his graduation, he had spent three years in the army and after that had married a girl he met at college. "E's" parents had not gone beyond high school, although his father managed a small business.

Although "E" was not particularly well-trained for any particular type of work, his maturity and experience were in his favor. Through the school employment agency he had obtained a job as a payroll clerk in a large aircraft factory where he earned about $10,000 a year. He had no particular long-range job plans when he was first interviewed. The following year, his duties in the same job had been expanded, and his earnings had increased to about $12,000 a year. His occupational goal was to become an administrator.

Perhaps because he was a quick learner and had taken some on-the-job training, "E" was working as an industrial engineer for the aircraft factory in both 1968 and 1969. His salary had remained rather stable at about $12,000 a year. "E" hoped to become a company official by the time he reached his thirtieth birthday.

"F"--A case of firm goals and career progress with help from his family.

"F's" career illustrates a surprising success story. He was 22 in 1966, was married, had finished a B.A. in social science and was living with his wife at his parents' home. With only a bachelor's degree, he had obtained a job as an industrial relations expert in a firm which manufactured plastics. His initial salary was $7,200 a year. The fact that he had obtained this job with the help of his family may account at least in part for his relatively high pay and for the rapid pay increases in subsequent years. He remained in that job through 1969. In the latter year his salary had increased to $12,000 a year and "F" was now looking forward to going beyond industrial relations and hoped to become a company official.

"G"--A case of upward intergenerational mobility, much job changing and career progress.

Despite almost innumerable obstacles, "G" had obtained a B.A. degree in the social sciences. Even though he had taken no graduate work, he made steady progress in his job career by being willing and able to change jobs to take advantage of better employment opportunities.

"G" was 21 in 1966, and had just completed a B.A. in social science. His father had been dead for several years and he lived with his mother who had completed only eight years of school and who worked as a private

household worker. In 1966 and 1967, "G" worked as a production planner for a company that manufactured office machinery, and then for a management consulting firm in 1968. In 1969, he worked as a sales manager for a company that sold office machinery. His salary rose each year from $7,200 in 1966 to over $11,000 in 1969. In most of his interviews, he indicated that he liked his work, but his goal was to become a company official concerned with management.

Some Suggestions for Future Research on Career Development of College Students

Although the longitudinal study of young men was not directed specifically at college students, one must be highly impressed with the amount of relevant information which is of help in assessing the academic and vocational objectives of students as well as the work history of graduates. Furthermore, some of the suggestions which will be made in this section have been incorporated already into surveys subsequent to 1969.

The following suggestions are intended for use within the framework of a longitudinal study such as the Parnes study. Some of the issues are suggested because certain information which was clearly necessary to construct a consistent case history was not available. Other suggestions are the result of a need to look more in depth at some of the detailed aspects of a study of career development of college students.

College enrollment and curriculum information

1. More detailed information is needed on the curriculum categories. The U.S. Office of Education provides an extensive list of degree objectives. Such a listing would be of great help in determining the relevance of education to subsequent employment.

2. Years of school completed should be asked each year since many students enroll on a part-time basis and one cannot infer a year of college completed for each year of enrollment.

3. Curriculum objectives should be asked each year. In the present study curriculum fields are noted only when a student changes school or drops out of college and returns. If none of these events occur, the only curriculum objective information is related to the degree received upon graduation. This type of information would be of particular use in determining the relation between socioeconomic background, curriculum objective and college dropout rates. Even if the student has no specific curriculum goal declared in a formal sense, he could be asked to indicate what he expects his specialty to be.

4. Information on college grades would be extremely helpful in assessing the relation of education to success. Ideally the grade information should be specific with regard to types of courses.

5. A question on part-time and full-time enrollment has been added to the questionnaire since 1969. This will be of help in assessing progress toward a degree, particularly a graduate degree. It would also help to explain the relevance of work-related activities of students.

6. Information on vocational guidance of college students would be helpful. The role of professors and other college officials should be explored. Similarly, the role of social or academic clubs and societies should be explored to determine if any relevant vocational information is obtained this way.

Job History

1. Although a specific recommendation would be difficult to implement, a much more detailed occupational classification would be needed for any definitive assessment of the relation between degrees and occupations. A great deal of information of this nature is lost when the classifier uses the catch-all category, "professional, technical and kindred, not elsewhere classified."

2. More information is needed on all jobs during each year of the survey. This particular need has also been met in surveys done since 1969. The broad sweep of the work history available from 1966 to 1969 does not adequately reflect the very high degree of job mobility and the incidence of lost weeks of work related to voluntary and involuntary job changes.

3. Because of the special circumstances surrounding the first few years of the work career of a college graduate, information is needed on reasons for changing jobs including the following types of reasons: (a) responsibilities on job were less than promised in initial job interview; (b) supervision was too tight or too loose; (c) opportunities for promotion were either not evident or not consistent with agreements reached in the initial interview.

Background Information

1. More specific information on the extent of encouragement given by each parent, particularly when classified by education of each parent, may help to sharpen the relationships between parents' and children's education.

2. More detailed information is needed on the world of work with emphasis on jobs college students might realistically aspire to. As an illustration of the questions that might be answerable with this information, the following is suggested. Was the young man who sought a degree in engineering aware of the specific types of duties he would be expected to perform or aware of the process by which engineers move into management positions?

TECHNICAL APPENDIX

Sources of Data

The underlying data used in this report were derived from the National Longitudinal Surveys supported by the Department of Labor and directed by Dr. Herbert Parnes at Ohio State University. The study involves a series of annual interviews with samples of people representing four different population groups: young men who were 14 to 24 years old in 1966; men who were 45 to 59 years old in 1966; young women who were 14 to 24 years old in 1968; and women who were 30 to 44 years old in 1967. For each of the four groups a probability sample of the civilian noninstitutional population has been drawn by the U.S. Bureau of the Census from 235 sample areas representing every state and the District of Columbia. Each sample consists of approximately 5,000 people. To permit statistically reliable estimates for blacks, a sampling ratio three times as great as that for whites has been used so that each sample consists of approximately 3,500 whites and 1,500 blacks.

Since the inception of this study, each individual in the sample has been interviewed periodically, generally once each year, in order to record complete work histories as well as to record changes in those characteristics that are assumed to be related to labor market behavior. In addition, the initial survey in each case provides a considerable amount of background material for each respondent, including an abbreviated history of work activity since leaving school.

While the general purpose of all four samples is to explain labor market behavior and experience, specific research objectives vary among them. For the young men, who are the principal focus of this study, the processes of occupational choice and the problems associated with entry into the world of work are of particular interest.

Information on a wide variety of activities relating to labor market participation is collected in these surveys. This information includes current labor force status as well as work status during the entire year. Information is collected on hours worked as well as weeks worked; on occupation, industry, location and duration of all jobs, thereby facilitating the analysis of occupational, industrial and geographic mobility during the entire period covered by the study, and especially, since leaving school. Information on a vast array of explanatory variables is also collected. This includes data on family background, education, training and health. Data are also collected on the characteristics of other household members including their educational attainment and the amount and nature of their labor market activities. A number of social psychological variables are also obtained.

For purposes of the present analysis of occupational career patterns, data tapes were used which contained records of four interviews with the young men. Because the larger study was aimed at all 14 to 24-year-old men, and college students are a relatively minor part of that group, the number of cases which can be analyzed is small. Even with a small sample, however, we hope to illustrate the advantages of longitudinal analysis and gain some,

at least, suggestive insights. The research is also limited by the fact that the wide range of questions which were developed by the Parnes group was not specifically aimed at college students and our rather intensive examination of these data will lead to some recommended supplements to this type of research as it relates to college students. Other limitations of the study are:

1. During the period of the first four years the young men were interviewed (1966-69), the armed forces laid claim to large numbers of college graduates and for this study, their post-college employment record is not available. The overall study is being continued, however, and ultimately data will be available on those who entered the military forces.

2. Some items of information are often not fully reported such as family income and employment status of students.

3. Some questionnaire items were collected in great detail but because of the need for reasonable parameters in tabulating and analyzing data, codes were assigned to a number of variables. The data types do not reveal the full insight which might be available from the actual questionnaires.

Methodology

The principal focus of this study is the differential background and employment experience of persons in the various college degree fields. The degree fields which were studied for men are as follows: (1) humanities, (2) social science, (3) science, (4) mathematics, (5) fine arts, (6) education, (7) business, (8) medicine, (9) engineering, and (10) law.

Identification of the degree fields was made when a person changed schools, when they left school for at least a year and returned, and when they were graduated. Information was not available in the degree field of those undergraduates who did not change schools or drop out for a year.

Two basic approaches to the analyses of data were undertaken. A listing was made of all questionnaire items of significance for college students and the selected items of information were transcribed from a printout of the data type onto a data record much like the original questionnaire. For degree objective categories which had relatively few cases, all records were transcribed. For persons in other degree fields, a sample of records was made by selecting two or three from each age group. Each transcribed record for the full set of all interviews was then carefully reviewed and typical cast histories were constructed. Table 1 shows the number of young men who were identified as students or as graduates classified by their curriculum field.

In each case history each respondent is identified by a letter. In general, earlier letters were assigned to younger men within curriculum categories. In order to provide information on all phases of an academic career, including employment after graduation, cases were selected on the basis of age and years of school already completed, with the early part of the alphabet representing students still in high school who would enter college during the following four-year period. Subsequent letters

TABLE A1. TOTAL NUMBER OF MEN BY CURRICULUM FIELD OF DEGREE OBJECTIVE OR HIGHEST DEGREE HELD

Curriculum Field	Total[a]	With Degree[b]
Business	135	67
Education	104	50
Engineering	68	32
Fine Arts	17	7
Humanities	45	27
Law	11	6
Mathematics	29	10
Medicine	16	11
Science	67	43
Social Science	104	62
Total	596	315

[a]Includes men who stated a degree objective when they changed or reentered school and those with a degree.

[b]Highest degree.

represented those already in college and finally, those who had degrees at the time of their first interview, many of whom had already been at work for two or three years. Because of the significance of this transition from school to work, this latter group of respondents was more extensively discussed.

The second approach to this research consisted of the development of analytical tables which were programmed for computer printouts. For this purpose, the universe was limited to persons who had received a degree because it was felt that their employment experience would be more significant and because of the ambiguous nature of the universe of persons who only had a degree objective but had not graduated. Unfortunately the computer-related aspects of this research failed and a limited number of hand tallies were prepared in order to summarize career histories.[1]

[1]A great deal of effort and financial resources was wasted in an effort to generate computer based tables for each degree category. Most of the difficulties stemmed from the problems involved in using tape records and erratic documentation. The problems encountered in the use of tapes were not unique to Temple University or to this project. Because many would-be users had encountered such problems, the Center for Human Resources Research at Ohio State University entered into an agreement with the Department of Labor and the Bureau of the Census to prepare public use tapes which can be more easily used by research groups. The basic study and sample design and the description of the new data tapes can be found in the National Longitudinal Surveys Handbook prepared by the Center for Human Resource Research of Ohio State University.

The tables which were prepared were limited to young men who had a bachelor's or higher degree in 1966. Most of this group had four years of relevant work experience by 1969 and could therefore provide basic information on the after-college work experience of the men in the study. For those young men who continued in graduate school, only their full-time work experience was included in the summaries. Data are not shown in those instances where the number of reported cases was less than ten.